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ABSTRACT

Origins of modular courses and the module in British postcompulsory education are considered, along with characteristics of modules, credit transfer, five case studies, and marketing in further and higher education. A module is a measured part (or course) of an extended learning experience that leads to specified qualifications. A designated number, and possibly sequence of modules is required, and the group of designated/required modules is known as a program, a program of studies, or a modular-course structure. After identifying characteristics of modules (e.g., size, arrangement, assessment), consideration is given to further higher education public-sector modularization in the 1970s, and the modular debate and modular activity in the 1980s. Institutional and program transfer in Britain and the United States is also addressed. Five case studies that exhibit significant differences in terms of scale, purpose, and age are included: the University of London, the City of London Polytechnic, the Oxford Polytechnic, the Hatfield Polytechnic, and the Scottish Action Plan. The emerging relationship between education and marketing is examined as a context to making conclusions about the role of modularization in United Kingdom colleges and universities. A reference list and a list of acronyms are included. (SW)

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STUDIES IN FURTHER EDUCATION

THE MODULAR MARKET

By Ernest Theodossin

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CONTENTS

Introduction	1
Chapter 1	THE ORIGINS OF MODULAR COURSES 5
Chapter 2	THE MODULE AS A DEVICE FOR CURRICULAR ACCOUNTING 9
	Primary characteristics of modules 9
	Secondary characteristics of modules 12
Chapter 3	A PERPETUAL NOVELTY: THE MODULE IN BRITISH POST-COMPULSORY EDUCATION 17
	The first modular courses in universities 18
	FHE public-sector modularisation in the '70s 20
	The modular debate 27
	Modular activity in the '80s 28
Chapter 4	CREDIT TRANSFER 33
	Institutional and programme transfer in Britain and the United States 34
	Non-standard entry 39
	Credit transfer and the market 41
Chapter 5	THE MODULE IN ACTION: FIVE CASE STUDIES 45
	A The University of London 45
	B The City of London Polytechnic 56
	C The Oxford Polytechnic 64
	D The Hatfield Polytechnic 72
	E The Scottish Action Plan 84
	Summary 92
Chapter 6	MARKETING IN FURTHER AND HIGHER EDUCATION 95
	The college and the market 96
	The college and its (many) clients 97
	Extending the market 102
	Market extension and product repackaging 103
	Product redesign and new lines 106
	MSC and the opening up of new markets 110
	Customisation and the education system 113
	Modularisation in the British market-place 115
Appendix A	CASE STUDY RESEARCH METHODOLOGY 119
Appendix B	ACRONYMS AND INITIALISMS 121
REFERENCES	125

ABOUT THE AUTHOR

Ernest Theodossin was born and educated to first degree level (University of Michigan) in the United States. He came to Britain as a postgraduate student (University of London), began a teaching career in English (schools, a technical college, a college of education) and became a naturalised British subject. In the mid-seventies he retrained (University of London Institute of Education) in educational administration and management and taught (university, institute of higher education) in this field before joining the Further Education Staff College as a staff tutor. His areas of professional interest include the management of planned change and marketing, in which fields he has previously published **Management restructuring in an FE college** (FESC, 1984) and **In search of the responsive college** (FESC, 1986). He is currently Deputy Director of The Responsive College Programme, funded by the MSC, led by the staff college, and intended to promote the development of a marketing approach to work-related education/training in colleges of further education.

INTRODUCTION

The origins of this volume lie in a doctoral thesis undertaken in educational administration at the University of London Institute of Education. My field was the management of change, and when I began work in autumn 1976 much of the most innovative activity appeared to be occurring in higher education. As Secretary of State for Education and Science, Mrs Margaret Thatcher had presented to Parliament in December 1972 a highly influential White Paper, **Education: a framework for expansion** (DES, 1972b). By the mid-seventies, Mrs Thatcher was in Opposition, but the education world, notoriously slow in its lead time, was busily working away at her 'anticipated programme of expansion'.

The 1972 White Paper had advocated courses 'developed on a unit basis' and

designed, where appropriate, in such a way as to earn credit towards other qualifications, including degrees and the requirements of professional bodies.

With my American background, I had noted with some interest the emergence of modular/credit courses in English universities during the 1960s, and the spread of such structures into polytechnics in the 1970s. Similar developments seemed to be appearing in the Technician Education Council (1974) and the Business Education Council (1976). I was interested in both large and small issues: how do such changes enter a national education system? where do they originate? how are they promulgated? what happens at institutional level? what are the individual political consequences of such changes at sub-system (departmental) level? how do individuals adapt/adopt major curriculum innovations?

The rhetoric accompanying the modular movement in the 1970s centred on expansionism expressed in terms of extended opportunities and an increased participation rate. The declining birth rate might presage a need to reduce teacher production, but there was a 'bulge' still working its way through the system: more education for a larger proportion was the desired end. Modular courses were allegedly flexible. Short-cycle higher education looked attractive to planners. Credit transfer needed exploration. We were enveloped in a movement from elite to mass higher education. Course proposals were a burgeoning industry.

If in 1976 I was researching at the frontiers of educational innovation, by 1980 the system had moved on. Resources were now the central issue; cuts had become the major talking point. The emphasis was on doing more with less, on accommodating larger numbers while effecting economies. As far as course restructuring was concerned, the action had shifted from higher

to non-advanced further education. Whereas previously one had tended to associate advocated innovation with the exhortations of OECD, CERI and DES, now new acronyms came to dominate educational talk: FEU, MSC, SSR. The modular movement seemed remote.

However, education has an unquenchable capacity for recycling seemingly exhausted ideas. A new metaphor can generate a new rhetoric, and a new rhetoric can brighten a tarnished proposition. In the 1980s the spotlight has shifted, but the outlines it reveals seem strikingly familiar. **Competence and competition** (NEDC/MS, 1984) has suggested 'withdrawing 16 and 17 year olds from the labour market', our old friend increased participation rate. Scotland is engrossed in establishing a national 16-18 Action Plan, 'a more flexible system of modular courses' (**Training for jobs**, 1984). The DES is funding research into credit transfer. The metaphor is now *marketing*, and we have clearly moved, in the new jargon, down market. The focus has been directed from higher to further, from education to training, from personal interests to relevance to 'employment roles'. The advocated means, however, are familiar.

In **The third wave** (1981), Toffler writes of the 'de-massification' (or individualisation) of services/products:

The essence of Second Wave manufacture was the long 'run' of millions of identical, standardized products. By contrast, the essence of Third Wave manufacture is the short run of partially or completely customized products . . . The step beyond this, of course, is complete customization — the actual manufacture of one-of-a-kind products. And that is clearly the direction in which we are heading: products custom — cut for individual users.

The movement is one which has been gathering momentum in British education over the past two decades, the extension of educational take-up to larger and larger proportions of the population. The dilemma, however, is that British education has been essentially provider-, rather than client-, centred, sustained through elaborate machinery/procedures/devices for directing clients towards the right course, i.e. matching learners to provision, providing horses for courses. The outcome has been, theoretically at least, *identical, standardised products* certificated through equally elaborate examining/validating/moderating/inspecting machinery/procedures/devices. *Customised products* necessitate matching provision to learners, courses to horses. In essence, customisation is the only means by which education/training can be extended to increasingly diverse and larger proportions of the population, and one can see most of the innovation advocacy of the past two decades as partially successful attempts to promote customisation.

Customisation, however, implies a power shift. In the manufacture of identical, standardised products the producer controls the output; in customisation the client becomes master. The implied change is a

movement from manufacturing to service industry. The reaction of the education profession has been one of deep-rooted resistance, apart from individual and small-group advocacy. There is a great deal at stake and much to be lost: doctors and lawyers guard their hegemony zealously, so we need not be too surprised that teachers should be equally cautious towards changes which would seriously erode their control of the learning/teaching process.

In the popular educational imagination, modularisation tends to be viewed as a species of partial customisation. Historically it was developed from the 1860s onwards in the United States in an attempt to move away from an Oxbridge model imported in the 1600s. The justification, in part at least, was the emergence of recruiting difficulties. It is not unexpected, therefore, that the device should be in turn imported into Britain nearly a century later, and that its promulgation should be closely linked to alleged efforts to extend the recruitment base, or, to use the current metaphor, to reach out to new market segments. Its reception has proved contentious. Modularisation in British higher education in the 1960s and 1970s has often been about advocated partial customisation frequently running the gauntlet and emerging as a relatively standardised product. It has also been about ostensible client responsiveness used as a pretext for institutional politicking.

In the 1980s the rhetorical emphasis has shifted towards complete customisation, distance and open learning, the negotiated curriculum, again US imports devised to make education attractive to a wider clientele and hence help to overcome anticipated recruiting difficulties in the latter part of the century. Of course, as has been so often the case with advocated innovation, customisation has been well supported from the centre. **Competence and competition** urges colleges to

... go to their potential customers with the offer of providing for their needs and wishes at times and in ways which suit the individual. They should 'market' rather than 'sell', and make customers welcome on their own terms rather than pressing them into college convenience. They should persuade people to look on the education service as an ally, counsellor and friend.

On this occasion, at least, central advocates can rely upon the persuasive impact of potentially declining rolls: the effects of the population bulge moving through the system and leaving a shrunken traditional market in its wake; consequent competition for the same market segments among universities/polytechnics/FE colleges, FE colleges/schools, and private sector providers; and a lack of confidence in any necessary link between education and employment. Against this, however, must be set a tendency for qualification levels to rise amidst competition for jobs, and a long history of failure on the part of central agencies to predict demand accurately. The outcome is by no means certain. Customisation, partial or

otherwise, does not fit comfortably into the British education system. It has been repulsed many times with familiar battle cries: standards, rigour, structure, coherence, progression. Certification and customisation are not natural bedfellows. The struggle has been raging for a long while.

It is because of this that it has seemed to me potentially worthwhile to resurrect my earlier research, to follow the debate into the 1980s, to bring the cases up to date, and to examine subsequent developments. The point is that modularisation is not a clearly defined end struggling to surface in the UK, but instead a protean means employed over and over in both Britain and the US to foster innovations and/or to resist change. In many respects, the path of modularisation in British education has been an illustration of *Plus ça change, plus c'est la meme chose*. As such, it provides a fascinating study of the uses to which rhetoric can be put in the transformation of the familiar into the seemingly novel.¹

1 The research for the bulk of the material in this volume was concluded by the middle of 1985, which may be taken as the general cut-off point, particularly for the institutional case studies. Unavoidable delays in publication have enabled me, in a limited number of instances, to bring other material up to date in spring 1986.

The origins of modular courses

Modular-course structures, as we know them today, first emerged in American higher education approximately a century ago. In the latter part of the nineteenth century pressure grew to replace the uniform classical curricula with something more suited to contemporary needs. At a philosophical level, there was growing acceptance of student-centred learning and of John Dewey's advocacy of self-realisation achieved through study fitting the individual's interest. There were also increasing demands for courses of a practical nature and relevant to the real world. At a more immediate level, colleges and universities had begun to experience recruiting difficulties: declining markets, then as now, served as a stimulus to invention.

As has often been the case in American education, Harvard University proved the major initiating agent for change, at this point (1869) by introducing the **elective system** replacing fixed curricula with an increasingly wide choice of courses. By 1884 Harvard students had almost complete freedom of choice. In the 1890s there arose a shift to measuring progress towards a degree on the basis of accumulating individual courses rather than completing a total course of study (Burn, 1974). In the meantime other institutions were adopting similar practices.

The movement towards electives was soon accompanied by increasing recognition of a need for quantifying the educational process, so that students' progress along various paths towards a degree could be assessed. The first units of measurement were the courses themselves, defined in terms of hours of classroom contact, with the measure of achievement across the varied course offerings based on a common time unit (Heffernan, 1973).

Thus emerged the credit system, the forerunner of modules, as a means of aggregating the series of varied educational experiences. Here, too, can be seen the origins of the view that American higher education allows students total freedom of choice, a kind of cafeteria system in which the moving tray is heaped with whatever fancy catches the mover's eye.

Such was certainly not the intention. The elective/credit system's proponents saw it not as a curricular free-for-all, but as a means of breaking the stranglehold of the classical curriculum. It had political advantages as well, allowing innovators to refrain from trying to commit their institutions to substantive views on such matters as religious education or the educational value of different subjects or methods,

thereby avoiding acrimonious debates and the emergence of warring factions (Ben-David, 1972). Electives were additionally viewed as a means of introducing onto the American scene two features of German higher education: *lernfreiheit*, the tradition of the wandering scholar moving from one centre of learning to another; and the possibility of permitting greater specialisation in curriculum, since it was suggested that with electives the majority of students would use their liberty to pursue some subject or subjects with a reasonable degree of thoroughness (Hofstadter & Smith, 1968). Above all else, electives would encourage the introduction of science and practical courses into American universities and colleges.

The new system continued to develop, with other innovations again surfacing at Harvard. In 1870/71 'studies' became 'courses' with Arabic numerals attached, and in 1872/73, the student was for the first time informed who would teach the course (Morison, 1946) so that he could select both content and instructor. The final 'seal of approval' came in 1901 via the Carnegie Fund for the Advancement of Teaching. To attain eligibility for the fund's pension programme, colleges had to employ admissions criteria appropriate to the board's guidelines; and, in turn, high schools had to adjust their curricula to enable students to attend fund-approved colleges. A range of required pre-college subjects was defined by the board, and achievement was measured in terms of credit for time spent in the classroom.

We may observe here three features of subsequent importance:

- 1 The American nation was committed to a fairly uniform curricular accounting system reaching from high school (the four years prior to higher education) through the completion of a first degree (another four years) so that a high level of administrative regularity prevailed. Later, the credit system was applied to postgraduate work as well (Gerhard, 1955).
- 2 Despite the alleged attractions of *lernfreiheit*, transferability of students between institutions was not initially widely developed as a useful part of the credit system.
- 3 In schools, at least, the credit system was employed to restrict choice and to bring schools into line with the demands of colleges and universities.

This last possibility was one that higher education institutions soon began to find attractive. Despite the movement towards electives, many educationists remained unconverted to choice. Some complained of the excessive trivialisation of education, and of the lack of system within the elective system. By way of compensation, a number of institutions had introduced a **major and minor system** (Phillips, 1901) where the student chose some department or group or studies in which he took a major, and one in which he took a minor (involving at least two years' work, and about two-thirds

as much as on the major). Although it had not pioneered this development, Harvard can again be said to have legitimised its adoption by introducing a system of 'concentration and distribution' in 1909 and by encouraging the abandonment of free electives. While options could not be removed altogether, having prevailed for several generations, choice was now confined to categories of courses. Both majors and minors and distribution and concentration are, of course, variations of the notion that the educated undergraduate should receive training in both breadth and depth.

In the concept of breadth, we may see the influence of Scottish higher education, and British writers have since stressed the similarities between Scottish and American education. Ashby (1971) has argued that the presence of poor scholars in Glasgow and Aberdeen promoted the development of general education¹ in the nineteenth century. Scotland (1969) has suggested that the 1889 Scottish Education Act effectively abolished the fixed curriculum, facilitating considerable variation in learning content among individuals. Perry (1976) and Lane (1975) have claimed that Scottish degrees are based on a credit system/modular pattern. Whatever the explicit connections between the American first degree and the Scottish ordinary degree, the similarities are striking.

Having abandoned the fixed curriculum, American education retained a broad commitment to general education at first degree level, again not unlike the Scottish Ordinary MA (Hajnal, 1972). Hence 'distribution', requiring students to take courses specifically outside their subsequent areas of concentration; and hence, too, the fundamental assumption that the first degree need not present any form of total academic coherence. This is a principle which has prevailed in American higher education, as seen in the frequent requirement that all undergraduates have some experience of natural and social sciences, as well as the humanities. What has been called (Brubacher & Rudy, 1976) 'the heyday of curricular *laissez faire* in America' therefore lasted from about 1870 to 1910, after which the word **requirement** began to play an increasing part in American higher education.

Nevertheless, the stereotype depicted above in terms of cafeteria education prevails, as does the association between an elective system and a credit system, or, in British terms, between choice and modules. Yet the stereotype, as is frequently the case, remains somewhat wide of the mark. Having been evolved as a means of quantifying student choice, the credit system eventually proved the means by which student choice was

1 Throughout this volume I have used *general degree* and *general education* to indicate study involving a significant proportion of time spent on a number of different (and not necessarily related) subjects/fields/areas, as distinct from concentration on *one specialist* subject/field/area, i.e. a central focus on breadth rather than depth. US degrees have for many generations sought to encompass both breadth and depth, insisting on limited study in a wide range of subjects/fields/areas and specialist study in one. In Britain, 'general' is also used to indicate pass degree level.

circumscribed and limited. Its subsequent history has been equally diverse.

There is some research evidence to suggest that the American credit system has continued to be used to limit student choice. Some institutions have grafted onto the indigenous system an equivalent of the British honours course, concerned with 'something beyond and distinct from regular course work' (Brubacher & Rudy, 1976), promoting the introduction of what we might describe as streaming or setting, whereby some students are siphoned off from the conventional course to undertake a variety of designated tasks. Observers have noted a tendency towards an increase in the number of requirements (Spurr, 1970; Tuttle & O'Leary, 1965; Hefferlin, 1969), and some interest in offering larger modules (Heffernan, 1973; Ladd, 1970), which has the effect of limiting the number of choices. At the same time, the credit system has been used to accommodate a whole range of approaches undreamt of at its creation: self-paced courses and independent study (Ziegler, 1972; Allen & Christensen, 1974); life credits for mature students (Hill, 1975); contract learning (Lindquist, 1975), the forerunner of our negotiated learning; credit for study abroad (Haas, 1982; College and University, 1979, 1981); and developments in the direction of non-attendance (Burn, 1974) and towards award of credit by mastery of content and examination (Lorimer, 1962; Spurr, 1970), and the abandonment of literal/numerical grading for satisfactory/unsatisfactory (Schultz, 1973) assessments.

As will be apparent, the credit system is capable of movement in virtually any direction: towards greater or less student autonomy, enhanced or reduced institutional control, greater curricular cohesion or more fragmentation. In the United States it has been used in the service of all these ends, and more. If any 'system' exists in the credit system, it does not do so at the level of purpose and intention. Rather, it may be found in the provision of a generally comprehensible and accepted means of quantifying the educational experience, a means concerned not to demonstrate quality, but to facilitate bookkeeping. The credit system is a device for curricular accounting.

The module as a device for curricular accounting

Dictionary definitions of module tend to suggest three underlying concepts: (1) measurement, (2) a part of a whole, and (3) repetition. Module therefore features in construction work, especially in the erection of buildings, and it is employed to designate items of furniture which can be assembled variously over time by the purchaser. In education, there have been a plethora of uses, for example in timetabling to indicate a period of teaching/learning (Allen & Christensen, 1974; Dainty, Porter, both 1978); and in modular instruction to represent self-contained sub-courses in a programme of self-instructional material. In the United States, the previous uses are fairly commonplace. However, more traditional courses are described in terms of **credit hours**, and the general structure in which they function is known as the **credit system**. In Britain, we need to observe that most commonly for credit hours we use **module** and for credit system **modular structure/course**, noting by way of caveat that modules go by a variety of other names, e.g. units, course units, unit courses, courses, etc. British systems are seldom characterised by universal consistency and tidiness. Bearing the above in mind, for our purposes we may define a module as:

A measured part (or course) of an extended learning experience leading to the attainment of a specified qualification(s), for which a designated number (and, possibly, sequence) of modules is required, with the group of designated/required modules known as a programme, a programme of studies, or a modular-course structure.

Modules may then be said to possess two kinds of characteristics, primary (or necessary) and secondary (or contingent).

PRIMARY CHARACTERISTICS OF MODULES

- 1 **Size.** The course known as a module is a learning block which is assembled with similar blocks to complete a programme of studies, and the module's size can therefore be expressed in terms of a specified amount of time per week/quarter/term/semester/year etc. Each module will also represent a fixed proportion of the total number of modules required for the programme of studies. Therefore, the module's size may be measured among three dimensions:

- (a) **Width** which may be expressed as some proportion (or equivalent) of a full week's work, or, as in the United States, in terms of contact time.
- (b) **Length/duration**, normally shorter than the minimum length of instruction of which it forms a part, and most often standard among all modules.
- (c) **Weight**, some specified proportion of the work required for attainment of the qualifications.

With regard to width, length and weight, there is generally a modular size which is used to specify all measurements: modules may be of a common size, or may be a multiple or fraction of the common size. Two examples:

- (a) In the United States, the modular size is the credit hour, representing one hour of contact time per week per quarter (10-week session) or per semester (15/16-week session), with (most often) either 180 or 120 such credit hours required for a first degree. The majority are three- or four-hour courses, i.e. meet for three or four hours per week.
- (b) The Open University normally requires six credit courses for a first degree; each course lasts for one year and the student may take a maximum of two credits per year, so that the width of each course is half the maximum time a student might be expected to study per week. However, there are also half-credit courses.¹

We should note here that measurement characterises most non-modular, traditional courses as well. In higher education, teaching and learning are parcelled out in fairly standard sizes: BScs and BAs are presumably equal measures of knowledge and skill in that it takes nine terms to produce either a chemist or an historian; among third-year honours students, a week of English equals a week of sociology. At least educational institutions proceed on such assumptions, although academic calendars may owe more to tradition and to religious festivals than to rational educational justification. Nevertheless, all academic work is conducted within formal, temporal administrative arrangements. Compared to traditional courses, modules represent a more precise, and possibly rigid, form of curricular accounting. However, the differences between modular and traditional measurement suggest variations of

1 In the 1970s the science faculty also employed courses of one-third and one-sixth credit (capable of aggregation to half-credits), but these were phased out in 1978-79 for administrative reasons.

degree rather than kind. If we wish to distinguish between modular and non-modular, it is not at the point of course size that we should seek for defining characteristics.

- 2 **Arrangement.** Although the weight of modules may remain constant, it is possible to alter the width and length so as to produce two different variations of study pattern:

- (a) **Concurrent modules** are the most common pattern, where the full time student takes two or more courses per week.
- (b) **Consecutive modules** are a development of intensive courses, where students concentrate their attentions on one subject at a time. In Britain, consecutive modules appear infrequently (Kuhns, 1974, Eckert, 1972, offer US examples), but part time students assembling modules over a number of years may well study them consecutively, as in OU degrees.

- 3 **Assessment.** Soon after the module's completion as a taught course, and prior to the commencement of any other modules, the student is assessed on his performance in the module.² The consequence is that a module completed is a module for whose content the student need never again be held directly accountable, although subsequent work may proceed on the assumption of the student's knowledge of such content.

From the assessment pattern prevailing in modular-course structures there derive two additional attributes of the module:

- (a) **The enclosure of its content** so that the material to be learned is organised in self-contained units of study (Lane, 1974); the self-containment is itself a function of assessment.
- (b) **The possibility of divergence**, either towards other academic emphases, or to other qualifications, or to other institutions.

Here, indeed, is the defining characteristic which distinguishes modular from traditional course structures. Here, too, is the point at which most critical dissension emerges. Without terminal assessment the module would remain another variation of the traditional course. With terminal assessment, there appears a whole range of possibilities which proponents have seized and detractors condemned.

We may sum up its primary characteristics by defining a module as a course measured in terms of established modular size — width (proportion

2 Some schemes (e.g. the University of London course unit system) allow deferred assessment, and to that extent are not wholly modular.

of a full-time week's work), length (quarter/term/semester/year/etc.) and weight (proportion of required work for a qualification) — offered concurrently or consecutively, and assessed shortly after its completion. Providing we go no further, and providing that the student is directed without choice to all required modules, we may certainly term modular schemes 'neutral academic devices' (GRIHE, 1975), neutral to the extent that, apart from specifying temporal arrangements in terms of size, sequence and assessment, such devices leave open to individual academic judgement what each module is to encompass, and how. Modules, as such, need not necessarily dictate content, teaching methods or curricular progression.

One may also count work experience, independent study or foreign travel as **equivalent** to a module. This, of course, depends on and derives from the nature of terminal assessment: it becomes a way of earning **credit**, of acquiring **advanced standing**, of crediting the student with having completed some part of the work necessary for his qualification, although not necessarily accomplished within the host institution. The best known British example of such credit awarding is the Open University credit exemption scheme (Ferguson, 1975).

SECONDARY CHARACTERISTICS OF MODULES

By **secondary characteristics** is meant attributes which are not a necessary or inherent part of modular-course structures, but which may be associated with modular systems. There are three such attributes, two of which have been the focus of contentious debate, one in the United States and one in Britain, each being viewed as sufficient justification for condemning modular-course structures in their entirety, although neither attribute is an essential feature of such structures.

- 1 **The tyranny of counting.** The modular size in American higher education for nearly a century has been the credit hour. First degrees are gained through accumulating either 120 credit hours, where the institution follows a semester calendar; or 180 credit hours under a quarter or term calendar. This means that if most courses are worth three credit hours, students will often require 40 to 60 courses for their degrees, compared to six credits needed for an Open University ordinary degree (eight for honours), or the nine course units needed at London. Even allowing for the additional year taken on US first degrees, American modules are comparatively smaller.

American critics have depicted their system as historically grounded in the concept of number (Flexner, 1930; Irwin, 1956; Lorimer, 1962; Axelrod, 1965; etc.) and have drawn attention to the attendant disadvantages:

- (a) The learning process has come to be represented as a unit of time, rather than a unit of competence (Heffernan, 1973).
- (b) Learning itself has been identified with contact time and class attendance.
- (c) The establishment of the credit hour has led to its being applied to areas other than student learning, and in particular to administrative procedures, so that the student credit hour has been used as a measure of instructional 'productivity' per faculty, per unit, per institution etc., thus strengthening the notion of learning as an essentially quantifiable experience, a view educationists often find objectionable.

In Britain the tradition of flexibility with regard to contact time has permitted the adoption of modular-course structures which avoid some of the numerical features of the American system. This has been achieved in two ways:

- (a) British modules (as noted above) have tended to be relatively larger, so that fewer are required for a programme of studies, and there have been fewer multiples and fractions of the standard modular size. According to Ferguson (1975), the Open University chose six credits for an ordinary degree in order to combine 'the freedom of the American system with the general sense of direction existing in the British system'.
- (b) British modules have often based their measurement not on specified contact time, but on likely (but not imperative) learning time. Hatfield's timetable module is defined as 'the maximum number of hours of formal tuition which are made available for a module' (Warren & Weir, 1973b), with the implication that not all of these hours need be employed. Jones (1969) has described the London physics BSc where, year by year over a three-year period, the number of lectures (or equivalent) in a half course unit is reduced from 36 to 30 to 24, on the assumption that students will work more and more independently as they gain experience. BTEC units are described (BTEC, 1984a) as involving 'a notional study time of 60-90 hours' and the Scottish Action Plan (SED, 1983) defines a module 'as a self-sufficient unit of instruction normally lasting 40 hours', both allowing for some degree of variation. In all of these examples, an attempt has been made to avoid measuring the width, length/duration and weight of a module purely in terms of contact time between teacher and student.

While it may be true that credit systems have been frequently criticised for encouraging students to become preoccupied with

grades (CNAA, 1974) and that modular schemes reinforce a student's 'natural obsession with accumulating marks' (GRIHE, 1976), it is also true that this is not so much a 'natural obsession' of students as a natural consequence of any assessment scheme, and that there are degrees of 'obsession'. Founded as it is on a fairly rigid counting structure, the American credit system has produced undoubted difficulties, but they remain largely the consequence of a particular modular structure, rather than an inescapable and unmodifiable result of adopting modules.

- 2 **Choice: options and electives.** In Britain, most criticism of modular-course structures has centred on their alleged tendency to destroy the coherence of a programme, and the source of that tendency has generally been traced to choice, which is itself often presented as a major defining characteristic of such structures (CNAA, 1974; Church, 1975; Briggs & Michaud, 1972; Burgess, 1977; etc.). The association clearly originates in the US elective system, but an elective system is not an essential concomitant of a credit system: while the two may co-exist, either may also exist without the other. Indeed, a modular course without choice is perfectly feasible.

Moreover, where choice is to be found within a modular course, it may not be available on an absolutely free basis. There are, in fact, seven devices for restricting movement within a modular system involving choice:

- (a) **Requirements.** Curriculum arrangements may simply specify that students must take particular modules for a particular qualification, or must take a specified number of modules from a particular group or groups, or may have no more or fewer than a specified number from a particular group or groups. Where requirements are expressed negatively, they may be termed **restrictions**.
- (b) **Prerequisites.** To promote curricular coherence, entry to modules may be limited to students who have successfully completed a specified module or modules, a knowledge of whose content is assumed.
- (c) **Graded levels.** Modules may be designated as more or less advanced and may be made available only to students in a particular year of study; often a coding system will indicate for which level of study they are appropriate.
- (d) **Sets, streams, series or co-requisites.** Groups of modules may be offered as a 'package' and students who begin the initial

one may normally be expected to continue to the end of the sequence.

- (e) **Special permission.** Modules may be available to students only after interview or by special arrangement with specified lecturers.
- (f) **Exclusion.** Certain categories of students may be prevented from taking particular modules, either because the individuals are assumed to lack sufficient preparation, or because the module is insufficiently advanced in content for their level, or because its material has been partly covered in other specified modules which they have taken, or because the module is considered inappropriate to their programme of studies.
- (g) **Non-availability.** Timetabling may close a module to students who are either required, or wish, to take other modules taught at the same time. Courses which are either unpopular and/or difficult to staff may seldom be available, or may be provided in alternate years.

A modular system employing all of the above devices may in practice be highly restrictive. The extent and availability of choice is itself a matter of choice to the designers and validating bodies of modular course structures.

- 3 **Sharing.** The third attribute frequently associated with modules is the possibility of using a single module for a variety of purposes and of counting it towards the fulfillment of requirements for a variety of qualifications (Lane, 1975; Burge, 1976; CNAA, 1974; Chambers, 1975; etc.). The attractions are readily apparent. If first-year mathematicians, sociologists, chemists and geographers might all benefit from a course on statistics, why not bring them all together with a single lecturer, save on staffing, and increase productivity? Unfortunately, there is nothing inherent in modular-course structures which ensures that modules can contribute to more than one programme of study. Whether they can and will do so is likely to depend on other considerations:

- (a) Academic staff may genuinely disapprove on pedagogical grounds of using a module for varied purposes. The shared module is likely to promote mixed-ability groups which may be perceived as disadvantageous to either students and/or teachers (Hajnal, 1972; CNAA, 1974).
- (b) Validating bodies may be unprepared to accept mixed-ability groups as appropriate. CNAA members, for example, have cast doubt on the possibility of using even some common modules for BA and BEd programmes (Lane, 1974; Murray, 1977).

- (c) Timetabling difficulties and room constraints may prevent sharing.

Those who see modularisation as a step towards improved institutional efficiency, or as an economic basis for institutional diversification, may well be disappointed. That credit hour courses are frequently used in the pursuit of a variety of academic qualifications in the United States is not primarily a function of modularisation, but derives from the designated purpose of US first degree programmes and is assisted by the large numbers of students accommodated within single educational institutions, often many thousands in small establishments. Modules can provide a variety of means to a variety of ends. What they cannot do is lead their advocate through the maze of possibilities. Modularising necessarily produces only modules.

A perpetual novelty: the module in British post-compulsory education

One of the most powerful and persistent British educational stereotypes seems to be that of the innovating teacher, the individual who moves into a position of hierarchical advancement in a spirit of reforming zeal. Surveying what he has inherited, he finds everywhere evidence of the dull, the uninspiring, the out-of-date, and the irrelevant. His predecessor has failed to meet needs. What is clearly required is **change**. His goals are to be (or to be seen as) new, dynamic, meaningful and exciting. Everything must be transformed. The reward will be a future moment when the innovating teacher can glance backwards with satisfaction: 'When I arrived . . . but now . . .' His colleagues, of course, will be less disenchanted with their own performances, for which reason, like Penelope, they will spend their spare hours unpicking what he has woven. Their goals are to keep things comfortable and familiar. In due course, however, on the basis of his alleged achievements, the innovating teacher may well move on to another position of hierarchical advancement, and it will now be the turn of his successor to survey what he has inherited and to find everywhere evidence of the dull, the uninspiring . . . and so on.

Such must be at least a partial explanation of why British education seems to be forever in pursuit of the new, while remaining so determinedly committed to the traditional, why significant change is so frequently announced and so seldom attained. The phenomenon must also go some way towards explaining why modularisation has been with us since the early '60s, heralding a series of major developments, and yet repeatedly delivering less than has been promised. The new would appear to possess inherent value, and the module an abiding power to startle and surprise, a kind of perpetual novelty. In its most recent manifestation, the Scottish Action Plan, the module is again associated in the advertising material with dramatic, transforming change:

... a new system of education for the 16+ age group ... much work has gone into the preparation of the new structure ... The first awards of the new certificate ... The new system is intended to be comprehensive ... Existing courses ... will be replaced by new courses ... The framework of new courses will be phased in ... the opportunity

has been taken to overhaul, and to rationalise . . . a modern network of subjects . . . will take full account of the impact of new technology . . . The new modular framework . . .

Somewhat later in the same leaflet it is admitted that the module concept is 'used internationally at various levels', but the emphasis throughout is on radical departure, as confirmed by the use of the word *new* nearly 20 times in the first three pages of text.

From an historical perspective, there is unintended irony in a 19th century curricular device emerging in the 1980s as a harbinger of an altered future, particularly in Scotland, which some have associated with the birth of modules. Moreover, British attempts during the past quarter century to revolutionise provision in post-compulsory education through modularisation suggest a considerable gap between intention and realisation. The module may arrive with the promise of change and end by accommodating the conventional. The future may eventually appear remarkably like the past.

Chapter 2 argued that the module is a neutral device for curricular accounting. It can be used to extend or limit student choice. It can assist with the attainment of a variety of conflicting and contradictory ends, although not necessarily at the same time. Because modularisation segments an extended learning/teaching experience, individual modules can offer opportunities for incremental modification, and, in turn, a series of such alterations can significantly affect the shape and purpose of a whole programme. Modularisation is thus an extremely useful tool for political machination, and can be/has been used as such by both teachers and students. Introducing modules can lead to changes *away from*, but it can also provide the means of changing *back to*: modules do not embody necessary ends beyond containment and assessment, and both are capable of modification. Going modular can well end in going nowhere at all.

In British post-compulsory education, there have been three major thrusts towards modularisation, at intervening periods of approximately a decade. All have been advanced in the pursuit of diverse ends. The most recent thrust is in its early stages. The two previous ones are largely spent and belong to history. However, their consequences are very much with us, and their fate tells us a great deal about system survival, about the persistence of inherited/transmitted values and the power of the pecking order, about the politics of curriculum innovation. They also offer warnings to the innovating teacher: enthusiasm is not enough.

THE FIRST MODULAR COURSES IN UNIVERSITIES

The first thrust towards modularisation arose in the early '60s in the science faculty of the University of London, where actual modular courses began with the 1966 student intake. The details of the progress are related

in Chapter 5 so it will be appropriate here merely to recount the broad outline. Although several writers (Church and Lane, both 1975) have attempted to explain the London modular scheme in terms of the need for rationalisation amidst a declining market, the main support for the new scheme was political: in a federal university system, the course unit structure gave freedom to teachers in individual schools to devise and plan their own courses with a minimum of interference from central authorities (Overend, 1973). At an early stage supporters suggested/predicted a wide range of innovatory uses: wider student choice, slower rates of study, interdisciplinarity, economies of scale, inter-school co-operation, etc. None of these intentions has been realised (if at all) to any significant extent. In an interesting piece of research, Stokes (1979) concluded that the course unit system was being used in some London departments as a means of 'carrying on the old system' and suggested that its flexibility and possibilities had 'not yet been by any means fully explored'.

The influence of the London course unit science system may be noted in, for example, the emergence of a unit-course scheme at Southampton in 1972 (Cane, 1973; Hills *et al.*, 1973). In addition, but to a lesser extent, modularisation has spread at London and elsewhere into non-science faculties, and, for a time, through university validation into constituent colleges in the public sector. However, university modularisation has tended to remain very much a domestic, in-house activity. Its progress has been desultory and, as far as one can ascertain, has involved movement from one institution to another through personal networks. Its introduction was never advocated in the service of any conceptual framework or the fundamental transformation of a national system. In support of subject autonomy, individual departments have been left to accept/reject modules as they have wished, and no traditional university has modularised its work totally. Nor has a prestigious British university put its weight behind modularisation, as happened in the United States. It would be difficult to describe university modularisation as an important development of the past quarter century, either in itself or as a facilitator. As self-validating institutions, British universities possess a means of affecting organisational change more powerful than the module.

The obvious exception is the Open University (OU), the only British institution conceived from its birth as totally modular. We can identify in the OU system the distinguishing features of the American credit and elective systems: course accounting, regular and continual assessment, a wide range of options, a form of self-paced learning, credit exemption. The particularly British features are the relatively small number of credits required for a first degree (six for ordinary, eight for honours), and the greater length of the courses, one year. However, the OU operates at some remove from the traditional British university context: it serves mature students in a form of distance provision with the emphasis on self-

learning; its first degrees, all BAs, have a strong general component. From its development in the late '60s, the OU was intended to be different, an alternative to conventional universities, and remains so. If one were to list the major influences of the OU on higher education in this country, the emphasis would be on learning materials rather than curricular accounting.

FHE PUBLIC-SECTOR MODULARISATION IN THE '70s

If the previous phase of modularisation may be viewed as unco-ordinated and local in nature — institutional in origin and impact, the second thrust must be placed within a larger context. It offers an interesting example of how policy promotion can move through the greater system, being continually modified at each level, often in the pursuit of new and different ends, until what is effected is diversity, where consistency and integration were sought.

- 1 **International exhortations.** As its title suggests, the Organisation for Economic Co-operation and Development (OECD) is dedicated to the pursuit of economic growth, employment, and a rising standard of living, but from its establishment in 1960 it has regarded education as central to the attainment of its goals. In the late '60s and early '70s the OECD produced a stream of literature arguing consistently for a specific line of educational development and promulgating associated policies. Education, the argument ran, was a key factor of production, a price mechanism: in terms of economic theory, education was progressively becoming more important than the role of capital, in the same way in which the latter had replaced land in the 19th century.

Industrial/technological development, it was claimed, followed a predictable pattern of which the United States provided the exemplar. As advancing technology freed men from the necessity of working so long and so hard, the resulting leisure was increasingly filled with education — initial, recurrent and continuing. This was useful in occupying the workforce constructively and in helping workers to remain abreast of current developments.

The underlying justification was based largely upon a conceptual framework (OECD, 1983b) developed by Martin Trow. According to Trow, technologically advanced societies could be expected to move from elite to mass to universal higher education. Europe and Britain were in the elite stage, and the United States in the mass stage. The transition from elite to mass take-up could be facilitated by adopting the structural and organisational devices associated with American

education, of which the two most crucial were comprehensive secondary education, which dismantled the sifting mechanisms preventing larger numbers of learners from moving into post-compulsory education; and modularisation, which allowed more flexible combinations of courses and easier access and movement.

Over and over, the OECD literature (1971a, 1971b, 1973a, 1973b, 1974a, 1974b, 1974c, 1975b, 1976, etc.) stressed what were seen as inherent possibilities in a modular system:

- (a) **Individualised programmes** could be devised to meet the interests and needs of individual students, assembled from a wide range of modular offerings.
- (b) Students could **transfer** among and between both programmes and institutions as their interests/needs changed/evolved.
- (c) **Discontinuous education** could be promoted for students who could not (or did not want to) study for long periods of time. New two-year, short cycle HE courses could be developed as part of a degree programme, to be topped up if and when desired.
- (d) Both (b) and (c) above would be made possible by the use of **credit transfer**, whereby what students had achieved previously could be used in part fulfillment of different programmes of study. Such flexibility would encourage the substitution of student 'step-outs' for 'drop-outs'.
- (e) Real **economies** could be effected. Credit transfer would ensure that earlier learning was not 'wasted'. It could also facilitate the development of institutional specialisation: if students (and teachers) could move from one university/college to the next, as their interests developed, there was no need for every institution to offer total provision.

The list of claims was long and grand. Burn (1974), brought onto the scene to provide an expert's overview of the US credit system, warned innovators against assuming that modular courses were a means of creating (rather than of facilitating the expression of existing) values:

All that the credit system can do is assign a numerical value to individual courses so that progress towards a degree can be quantified ... inter-institutional transfer does not flow automatically from the credit system.

Where a foreign HE system was already committed to

... wide access, inter-faculty and inter-institutional transfer, curricula choice, the integration of recurrent education with the

degree system, student-oriented higher education, applying external experience towards a degree, etc. — then the credit system may be superfluous.

Trow's conceptual framework was by no means simplistic, but in retrospect it seems very much a product of its period, a time when futurology was the educated man's astrology and when *ineluctable* was a favourite word in the OED sense of 'from which one cannot escape by struggling'. It was also a period when structural alterations were seen (as they still are by many) as a relatively painless way of changing attitudes, values and aspirations. In the meantime (1981), Trow has himself acknowledged that 'the United States may no longer be an exemplar toward which other nations move, as I once anticipated'. In the meantime, too, we have experienced the early 1970s' energy crisis, the attendant economic recession and a growing awareness of education as a prelude to non-employment. However, if we are inclined to smile somewhat too broadly after the event, we need to recall the ways in which our educational attitudes and practices have been shaped over the past 15 years. Nor have we moved unmistakably away from earlier convictions. A decade later, OECD literature still makes many of its earlier points, albeit with the spotlight enlarged so as to include training as well as education, arguing that modularisation can 'reduce the time-horizon of vocational education and training' (1983a) and that modular courses can be employed 'as a means of facilitating the preparation and transition to employment of young people who are in their initial training' (1983b). *Can* and *will* are, of course, quite different, and point us again to the distinction between means and ends.

- 2 **Promptings from the centre.** The actual impact of the OECD on educational policy-making at the national level is difficult to gauge, although Kogan (1979) has suggested the possibility of 'some sort of informal OECD network that made the expansion of higher education, and the resulting changes, thinkable'. At at least one point, however, the OECD attempted an openly interventionist involvement in British policy-making. In the report (OECD, 1975a) of their 1974 visit to the Department of Education and Science (DES) to review policy formulation, the OECD visitors were critical of the whole structure of British education and of the DES failure to project clear policies for the 16-19 age group, but they noted with evident approval that the 1972 White Paper, **Education: a framework for expansion** (DES 1972b), was 'quite outspoken on the system of units and credits as well as on the construction of university courses'.

In the early '70s there was considerable evidence to suggest that the DES was promoting OECD goals. The James Committee (DES, 1972a) and the aforementioned White Paper (1972) both advanced the desirability of the Diploma of Higher Education (DipHE), clearly

meant as a British response to OECD urgings for short-cycle higher education. The DipHE was to be modular and was conceived in terms of transferability and recurrent education. As colleges of education reduced their initial teacher training numbers to take account of an anticipated decline in school rolls, the new courses for new clients would take up spare capacity. HE was on the move. The participation rate could be expected to rise steeply. The Russell Report (DES, 1973) recommended 'a transferable credit structure' as particularly helpful in meeting the needs of adult education. DES Circulars (7/73, 6/74) further strengthened the case for unit-based courses.

The enthusiasm (if such it was) seems to have been short lived. From September 1975 to September 1977, Dr W Boardman was seconded from Hatfield Polytechnic to the DES with a brief to look at 'modular schemes in all institutions in the non-university sector, at all academic levels over the full spectrum of subject areas'.¹ According to Boardman, during his period of secondment, the DES had 'no fixed views' on modularisation: they were 'not anti', but neither were they involved in 'promotional' activity. By the mid-'70s, the world, the educational scene and modularisation itself were beginning to look different.

In particular, the DipHE was well on its way to becoming yet another of those exciting new ideas intended to revolutionise British education but destined to impact with the force of thistle-down. The original intention was a unit-based programme of study offering delayed commitment and able to function either as a terminal qualification or as part of a degree course. The potential was enormous: a unit-course structure leading to certification with inherent transferability to other courses might be expected not merely to proliferate modularisation in the first instance, but, through transferability, eventually to increase intermediate entry into non-modular courses. The reality was otherwise.

From the beginning there were doubters and detractors. Conspiracy theories were advanced to account for anticipated financial savings (Lukes, 1975) and the spread of modularisation (Church, 1975). The difficulties of modular sharing (Meadows, 1973; Payne, 1974) and transfer (Kelly and Gutteridge, both 1975) were rehearsed. The DipHE was described as on a 'potential collision course' (Byrne, 1975) and 'dispossessed of its inheritance before it was born' (Burge, 1976). The major difficulty, as Perry (1976) has noted, is that the Diploma has been conceived as two-thirds of an honours degree programme, whereas in other countries where four-year programmes are the norm, short-cycle higher education tends to occupy half the length of a degree course.

1 Taken from interview.

Most recent evidence (Davidson, 1980; Boyson, 1981,) suggests that the DipHE is in most instances not awarded, but is used as a form of non-standard entry to first degree courses, particularly by older students. Ironically, one of the most well documented DipHEs has been the non-modular North East London Polytechnic model (Cunningham and Holly, both 1975; Burgess, 1977). If it does nothing else, the progress of the DipHE demonstrates the difficulties of cross-culture transplantation, the difference between promptings from the centre and receptions at the periphery.

Perhaps that difference accounts for the apparent subsequent lack of interest in modularisation in DES documentation, although the Scottish Education Department (discussed below) has gone to the opposite extreme. However, the DES interest in transferability has survived. In 1978 the DES first began funding a series of project activities concerned with developing (Toyne, 1979) an educational credit transfer system (also discussed below).

The first major central move towards FE modularisation was announced in the initial Policy Statement (1974) of the newly formed (1973) Technician Education Council (TEC) which revealed a commitment to structures 'built on units and a credit system'. The units were to be self-contained components of a programme, and programmes (for the four main TEC awards) were to be constructed 'from 60-hour units'. What emerged was a highly organised system of curricular accounting with many features associated with American credit arrangements, not least the attribution of 'levels' to units along a five-point scale. An evaluation study of TEC programme development in colleges (FEU, 1981) suggested that choice was often limited, sometimes by a TEC requirement that units be validated in combinations 'to ensure coherent patterns of study', and at other times for practical reasons: insufficient student numbers, employer/teacher influence, lack of teacher availability/expertise.

TEC's 'sister body', the Business Education Council (BEC), opted somewhat confusingly for 'modules' which were really courses linked through the identification of four central themes 'within the core of any course leading to a BEC award' (BEC, 1976) and the use of cross-modular assignments to 'measure the student's ability to inter-relate knowledge'.

After TEC and BEC were merged (1983) to form BTEC, a survey of users (BTEC, 1984b) showed divided commitment to what were clearly distinguished as 'the unit/credit and the grouped course approaches'. A policy statement (BTEC, 1984a) indicated that the two approaches would 'initially continue' alongside one another during an exploration of the advantages and disadvantages of both

a unified approach and the greater availability of both approaches. At the same time, the former TEC practice of attributing levels to units was to be only partially maintained. In broad terms, both TEC and BEC represented attempts to simplify and co-ordinate technician/business training provision, and BTEC can be seen as a move further along the same road. Only time will tell whether the units and the courses will continue to co-exist, or whether one will give way to the other.

On the English/Welsh FE scene, BEC (as it then was) is not the only central organisation which has not given promptings towards modularisation. The City and Guilds of London Institute (CGLI), a major validator of FE courses, has shown no public interest in modularisation. BTEC's consultative document (1984c) on the proposed Certificate of Pre-Vocational Education is essentially non-modular in conception. The Further Education Unit (FEU) has revealed little interest in modularisation, concerning itself rather with curriculum content, classroom organisation and staff development rather than with curricular accounting.

At a national level (in England and Wales anyway), modularisation in FE and HE is part of a 'mixed economy'. The legacy of the '70s' thrust has been partial modularisation.

- 3 **The institutional response.** In the early '70s, modularisation was very much 'in the air' in public sector institutions. These were the institutions where the expansion in HE numbers was going to occur, and modules were representative of the new kinds of courses envisaged.

Modularisation soon became associated with polytechnics, often (e.g. City of London, Lanchester, Oxford, etc.) in the form of vast schemes encompassing a score or more of potential programmes. The production of such schemes was genuinely innovative in intention, but their genesis was often fraught with trauma, not least because the validating body, the Council for National Academic Awards (CNAA), initially lacked the internal machinery for dealing with course proposals of this kind. Nevertheless, by the end of the decade (Theodossin, 1980), 25 of the 29 English polytechnics had one or more modular courses on offer, and one of these institutions (Hatfield) had committed itself to total modularisation.

In the colleges of education destined to become colleges/institutes of HE, modular progress was often even more fraught for at least some institutions. The CNAA, its officers and members, demonstrated little support for modularisation. The council's 'discussion paper' **Reflections on the design of modular courses** (first circulated in

May 1974, but still available more than a decade later) tries for diplomatic neutrality with the term 'reflections', but its technique is to identify modularisation with choice and sharing and to caution readers against excessive enthusiasm: 'That the Council issues a paper on Modular Courses should not be taken to mean encouragement . . .' (CNA, 1974). Elsewhere, CNA staff/representatives were discouraging: there was a 'growing chorus of disillusionment' (Holland, 1974) with modular courses; modular structures were a 'vogue' which might not last (Ridler, 1974); having to choose options wasted time (Gutteridge, 1975); modular provision was lacking in integration (Lane, 1975).

Among those colleges with university validation, the situation was often dramatically different. In supporting the efforts of their constituent colleges along the lines suggested by central government, universities were creating lower-status provision, often of a general nature, which was not necessarily in competition with their own offerings. By the end of the decade it could be demonstrated (Theodossin, 1981) that the most extended and extensive modular course developments outside polytechnics had occurred under university (rather than CNA) validation in public-sector institutions, that the private (rather than the public) sector had responded most positively to central government advocacy of the US model. Altogether, 14 universities were validating modular courses in 28 public-sector colleges.

The activity was short-lived. The promised expansion never quite materialised. Universities began to look to their own interests and to withdraw validation from constituent colleges: competition for students could be foreseen.

In the midst of the '70s' modularisation, the Group for Research and Innovation in Higher Education produced **The container revolution: a study of unit and modular schemes** (GRIHE, 1976b), whose title might be seen as presaging a radical transformation of British provision. The reality was otherwise. A survey of modular programmes on offer in English higher education in the 1978/79 academic session (Theodossin, 1981) revealed a landscape only marginally altered:

While more than a quarter (27.1 per cent) of undergraduate programmes were modular, there was little that could compare with North American provision . . . The majority (64.5 per cent) of the undergraduate modular schemes were free-standing (i.e. they were not linked to other awards). English modules tended to be longer and larger than their American counterparts; choice was restricted; under 15 per cent of modular programmes was available on a part time basis.

THE MODULAR DEBATE

The activity charted above occurred within a context of considerable contention over modularisation. The issue was coherence, the assertion that modules fragment learning and divide it into unrelated parts. Perry's (1976) 'miscellaneous rag-bag of credits . . . a second rate degree with no internal coherence'. The conviction persists, as in BTEC's (1984a) distinction between 'a totally integrated programme' and 'a modular structure by which only partial integration . . . is achieved'.

The arguments against modularisation in terms of uncemented bricks depend on the assumption that the whole (or a significant part) of a learning programme should form a coherent intellectual exercise. The common distribution requirement in American education and the breadth goals of Scottish higher education spring from an alternative assumption and a different set of values; and these values, including a commitment to general education, underlie a large number of degree programmes in English higher education as well, from the Oxford 'Modern Greats' to the growing number of combined and joint honours degrees.

At the same time, the allegation of modular fragmentation assumes that non-modular programmes are not fragmented conceptually: that they ought to be coherent; that they are coherent; and that a scheme which can be defended as coherent on paper is coherent in practice. Even in single subject honours programmes, what is intended to be coherent may appear less so to students, particularly when a number of lecturers come into and out of the programme and/or work in areas where their colleagues feel intellectually ill at ease.

Indeed, the whole subject of coherence is so complex that one is continually surprised by the many sweeping claims about its alleged presence or absence. At an FESC DipHE conference, Taylor (1974) offered a taxonomical approach to the subject, presenting 'six criteria for coherence' which are not advanced as mutually exclusive: Conceptual Unity, Methodological Coherence, Thematic Coherence, Problem Orientation, Development of Skills, and Occupational Relevance. As will be seen, Taylor's categories are concerned with the establishment of organising principles and represent a line of movement from subject matter (Conceptual and Thematic) through approach (Method) and means (Skills) to the needs of students (Problem Orientation and Occupational Relevance), or from the most abstract to the most personal. Much of the modular material about coherence assumes that Conceptual Unity is the only valid form of coherence.

Even if one is committed to conceptual unity, modularisation does not preclude the attainment or demonstration of such coherence. In a pure credit system, without electives, the institution is free to chart the predetermined movements of its students. In either elective-type and/or credit-type systems, comprehensive/synoptic assignments/examinations may be employed.

Nevertheless, intellectually valid or not, the conviction that modular courses lack coherence is by now deeply embedded in the educational culture.² As we shall see in the following case study section, the result has often been attempts from both students and teachers to move modular provision in the direction of the non-modular kind by limiting the general components and increasing the specialist elements in existing schemes. The price is generally a reduction in choice, and the result something closer in approach to the kinds of courses from which the schemes were originally intended to offer a departure. At the same time, as with the DipHE, such a movement reveals the new provision being used not to serve alternative ends, but as an alternative means (non-standard entry) towards conventional destinations. The coherence debate thus serves as a defence of traditional values (specialisation) and the established pecking order among already held qualifications. The innovating teacher may claim that new is better, but in the market-place the old may continue to retain its value, representing, as such, a much sounder investment.

MODULAR ACTIVITY IN THE '80s

The reference to the market-place brings us firmly into the mid-'80s. Trow's elite/mass/universal conceptual framework seems to belong irrevocably to a past era. Today the underlying conceptual framework towards whose realisation change is being advocated has become *the market*. Yet, paradoxically (or not), it is Trow again who has given us (1981) the fullest analysis. For Trow, markets exhibit the following distinguishing features:

- 1 **Self-Interest.** Trow sees in markets the operation of 'a pattern of social choice, the relatively independent actions of self-interested parties'. In the market-place, individuals tend to pursue their own ends.
 - 2 **Shifting power balance.** When 'sellers (producers) are relatively numerous, their behaviours are marked by competition among them for the custom of the buyers', which strengthens the buyers' influence 'over the character and quality of the product, indeed, over the very character of the producer'. Trow does not elaborate upon the reverse situation, where the sellers limit the possibilities, but the expectations over the subsequent decade are of a buyer's, rather than
- 2 Just how deeply can be demonstrated by HMI 'views' offered to The Review of Vocational Qualifications in England and Wales Working Group, where we are told: 'Modularisation has positive features as it can render provision more versatile and cost effective. The educational merits are largely unproven but obvious disadvantages would be curricular fragmentation and loss of relevance if students are permitted too liberal a use of 'pick and mix' systems of course design'.

a seller's, market, of surplus provision in search of declining demand.

- 3 **Lack of control.** Market-place activity represents behaviour which 'is not formally directed or co-ordinated, the outcomes of which no one has planned', activity which is 'resultant' rather than a 'solution'. In the market-place, the 'outcomes are not the result of planning or centralized purposive decision', i.e. buyers and sellers, and not government, determine the results. Although Trow does not draw our attention to the likelihood, governments, of course, frequently seek to influence (and manipulate) markets.

In the end, Trow remains unhappy about the market-place: the market knows neither love nor hate, the cost of everything but the value of nothing. Moreover, the market

... is the ultimate source of the great diversity and responsiveness of American higher education to the needs of the larger society around it, and also the source of grave problems and pressures toward academic corruption and pathologies.

Modularisation and credit transfer have now become the 'academic currency' of the market-place:

The unit credit system is almost wholly absent from other systems where degrees are earned by passing examinations or writing dissertations. But our credits, units that can be accumulated, banked, transferred, and within limits automatically accepted as legal academic tender toward an earned degree throughout the system, make possible the extraordinary mobility of our students in three distinct dimensions: between fields of study, between institutions, and over time.

By contrast, Trow reminds us that:

Other countries ... do not want to strengthen the power of students as consumers, for fear of the effect on the character, quality and standards of their institutions and national system. The maintenance of a national system of universities with high common standards requires that the system be managed by state agencies in collaboration with the academic guilds ... almost everywhere outside the United States, the combination of political, bureaucratic and professional structures operates to insulate higher education from competitive market forces, and controls and ultimately constrains access.

That, of course, was 1981. By the mid-'80s the situation may be perceived as somewhat changed. Indeed, the work of the Society for Research into Higher Education financed by the Leverhulme Trust, towards which Trow made the above contributions, may be seen as a most strikingly market-orientated project, and modular courses and credit transfer are presented as facilitating devices for making educational establishments (as providers) responsive to the needs of clients (students, employers,

industry, government). The Leverhulme Report (**Excellence in diversity: towards a new strategy for higher education**, 1983) draws together the proposals of nine earlier studies: there is a need for 'flexible response, particularly through short, modular courses'; a 'diversified pattern of courses and entrance requirements' will entail 'a system of credit transfer' and 'a national information credit transfer service'; part time study 'implies a wider acceptance of modular courses and credit transfer'.

We have encountered these recommendations more than a decade earlier. What has changed is the focus of action. Previously, structural changes were being advocated in response to the inevitable increase in demand: opening the gates wider to allow more to enter, the buyers to attain their ends. Now the intention is to allow more sellers to go out and drum up business.

The Leverhulme Report describes **Access to higher education** (Fulton, 1981) as 'unashamedly expansionist'. There is certainly an emphasis throughout all the Leverhulme volumes on opening up new markets and on directing products towards new market segments, in particular adults and continuing education. The evident concerns have been obviously stimulated by an awareness of the contracting traditional market, as the national drop of a third in child population level moves through the system and makes its impact on higher education as it did earlier on teacher training and primary and secondary schools. Bad business is the pathway to no business. Something needs to be done.

However, the market concept is by no means confined to higher education. At present most market activity in education is concentrated somewhat lower down, in schools and colleges dealing with the 16-19 market segment. Trow (1981) perhaps speaks for many teachers throughout the entire learner age range in viewing markets with grave disquiet:

Market forces are a prime source of the American system's unique qualities — its size, diversity, flexibility, openness and responsiveness. But while the market is a source of great strengths, it is also the source of profound problems and corruptions . . . it is clear that there is not a perfect correspondence between the interests of the recruiting college or university, and the recruited student.

It is just such unease which has possibly led to the intervention of government employment agencies (DES, 1983) in so many European countries. In Britain, the Manpower Services Commission (MSC) has been operating as an interventionist agency for some years in schools and further education colleges, with its Youth Opportunities Programme, its Youth Training Scheme, its Technical and Vocational Education Initiative, the whole panoply of its New Training Initiative: if teachers find marketing offensive, someone else can take charge. The MSC's efforts have been directed at providing training which is more responsive to employer and student (and hence market) needs.

Competence and competition (NEDC/MSc, 1984) urges colleges to

... go to their potential customers with the offer of providing for their needs and wishes at times and in ways which suit the individual. They should 'market' rather than 'sell' ...

The MSc wants competition in the interests of effective/efficient provision, for which reason it has turned to 'private' trainers set up to compete with local authority colleges. Exactly the same kind of marketing approach lies behind the White Paper **Training for jobs** (1984) which suggests that the public sector requires 'a greater incentive' to relate its courses to the needs of the customer, for which reasons the MSc will take over 'a more significant proportion' of local authority work-related non-advanced FE. One of the MSc's intentions is to develop a linked system of certification covering the range of 'training standards and qualifications', what we might view as the foundations of a credit transfer system.

However, all of the above applies to England and Wales, but not to Scotland. The Scots, we are assured, have been pursuing a plan which

... will result in a more flexible system of modular courses, leading to a single new vocational certificate ... General and specialist modules may be combined in different ways to provide full time and part time courses in schools and colleges to suit the needs of both young people and adults.

The new approach will offer 'nationally validated standards of attainment', a single record of student attainment, and opportunities to negotiate suitable programmes to meet 'local needs and changing requirements'.³

The Scottish Action Plan, introduced in August 1984 and discussed in Chapter 5, is intended to encompass all learning undertaken in the 16 to 18 age group, thus subsuming the activities of the Scottish equivalents of BTEC (SCOTVEC) and of CGLI. Programmes are to be made up of modules, self-sufficient units of instruction normally lasting 40 hours. The coherence issue has been confronted through 'integrative' modules 'which emphasise synthesis' and through bringing 'together modules which have been designed separately' (SED, 1983).

We have arrived at what is arguably the closest British equivalent of the American credit system, valued by the MSc in the mid-'80s precisely because of its market orientation. The Scottish Action Plan accords perfectly with the OECD exhortations of 15 yrs earlier in terms of distinguishing features. To be sure, the underlying conceptual framework is a market orientation rather than a view of HE as a handmaiden to the

3 In their report to the MSc, Coopers and Lybrand Associates (1985) argue of any restructuring of English/Welsh vocational qualifications intended to increase employer investment in training that 'it would be essential that the structure should be highly modular (as the Scottish system is)'.

economy. The emphasis is now on 'selling' what may be overlooked/ rejected rather than sharing what is desired. The focus has shifted from HE to FE, from education to training. Some of the earlier confidence has wilted. The facilitating device, however, remains a commitment to modularisation and credit transfer, the (by now) familiar means to unfamiliar ends. The seller's market has become a buyer's market. The old ways are meant to achieve new goals.

Credit transfer

It is difficult to think of a proposed change in British education which has won more widespread support in recent years than credit transfer. Indeed it is even more difficult to locate any major organisation which has opposed the extension and development of credit transfer. The EEC Commission of the European Communities has advocated inter-Member State Movement (1983). The Leverhulme Report (1983) has recommended the establishment of 'a national information credit transfer service'. NAB (1984) has welcomed developments in this field, and its Chairman (Ball, 1984) has suggested that 'we should delay no longer in designing and implementing an effective network of credit-transfer'. The UGC has recognised that within the general three-year format for degrees the system 'may require . . . arrangements for credit transfer' (UGC, 1984). BTEC's policy statement (1984a) allows for individual students to

. . . be exempted from all or part of the initial stage of a grouped course, or from units in a unit-based course, on the basis of relevant prior achievement through study and experience.

The CNAA has commissioned a study (1984a) of non-standard entry to its courses and defined its view as a belief that 'opportunities should be extended to those who have a reasonable prospect of success'. The 1985 White Paper (**The development of higher education into the 1990s**) has urged a 'wider development of credit transfer'. Perhaps most important from a national point of view, the DES is currently funding a three-year development project, the Educational Counselling and Credit Transfer Information Service (ECCTIS). Credit transfer appears to enjoy universal support.

DES interest in credit transfer was first openly expressed in 1977 when it began funding an Educational Credit Transfer Feasibility Study under the direction of Peter Toyne, whose Final Report (1979) concluded that 'it is indeed feasible to establish a national information service capable of recording and providing information on credit transfer possibilities' and suggested that such a service 'would help to meet a present need' of many FHE establishments. Toyne's study defined credit transfer broadly to include

. . . three main ways in which the process of credit transfer operates, viz:

- (a) in the recognition of 'alternative' qualifications for initial entry to educational courses . . .
- (b) in the granting of exemption from parts of courses (entry with 'advanced standing') to candidates with suitable previous experience . . .
- (c) in the introduction and development of study schemes based specifically on the principle of cumulative and transferable credit . . .¹

Definition (a) is intended to relate to a market segment not previously catered for to any appreciable extent; (b) to promote client flexibility in the form of altered curricular destination and discontinuous education; and (c) to encourage course arrangements which would serve as enabling devices for (a) and (b):

The experience of several countries is that the process of credit transfer is particularly facilitated through the development of study schemes based on modular (unit) structures in which each module is accorded a 'credit rating' according, variously, to its length, difficulty or level.

It is of course true that modularisation can assist credit transfer by employing learning components representing measured portions of a programme and by assessing the student's achievement in those components immediately upon completion. However, despite such facilitation, where credit transfer is extensively employed, as in the United States, the explanation owes more to the nature, length and purpose of the educational experience than to its organisation into modules. It will therefore be useful to compare recent British arrangements with their longer established American counterparts.

INSTITUTIONAL AND PROGRAMME TRANSFER IN BRITAIN AND THE UNITED STATES

As we have already seen, much of the OECD contribution to the modular debate has centred on the capacity of modularisation to assist transferability.² Yet, the advent of modularisation in itself does not necessarily ensure transfer flexibility, which requires a considerable amount of management determination, political negotiation and complicated

1 To the above categories, ECCTIS (1986) has added a fourth: 'In the recognition of professional status by professional bodies following successful completion of specified courses'.

2 In the initial processing of transfer applications, modular labelling may well assist with evaluation, particularly where the title identifies the course content and the numbering indicates size, weight, length, level, and the existence of pre/co-requisites. Nevertheless, while modularisation may assist transfer processing, it is not a necessary precondition for transferability.

organisational machinery. Moreover, even if greater curriculum structural uniformity may be detected on the American scene, it can also be argued that there are other features of US undergraduate degree courses which tend to facilitate transfer at a technical, as distinct from a political, level:

- 1 **Ab initio study.** The general assumption in US first degrees is that the student may begin the study of any subject (X) as an undergraduate, emerge with a major in X and apply for higher degree courses in X. In Britain the norm is for the student to enter higher education with a commitment to X in which he has successfully passed public examinations, with the obvious exception of subjects which are not generally available in schools, e.g. law, Chinese, psychology.
- 2 **Specialisation.** Apart from Scotland, the British education system fosters subject specialisation at very early ages:

Three-quarters of the students entering British universities register for a specialized degree in a single subject. In preparing themselves to qualify for entry to higher education very few English students take more than three subjects, and fewer than one-quarter take a range of subjects beyond the age of 16 which includes both a 'science' and an 'arts' or 'social science' subject . . . The situation has changed little since the mid-1960s . . . In Scotland specialization is rather less, though . . . the range of subjects taken by individual students in the Scottish Higher School Certificate has narrowed considerably. Scotland can no longer be exempted entirely from strictures on premature specialization. (Williams & Blackstone, 1983)

In contrast, Trow (1981) notes:

. . . the peculiar American commitment to a generalized, non-specialized education for undergraduates. Almost everywhere American colleges award degrees on the successful accumulation of a certain number of credits . . . of which a substantial proportion, usually 40 to 60 per cent of all units earned, are taken outside the student's field of specialisation. Indeed in most four-year colleges and universities, the first two years are largely given over to meeting 'breadth' requirements outside the major field, and a substantial part of the last two years is also taken in work outside the major. In many colleges and universities a student may not even necessarily 'declare' a major field of concentration until the third year . . .

Transfer, as will be obvious, is easier in generalised study. So, too, is credit for experiential learning.

- 3 **Transfer points.** Compared to their British counterparts, American

programmes of study tend to be longer, at first degree level occupying four years instead of three. The modular components of such programmes tend to be both shorter (seldom above a half year) and smaller (1/15th of a year's work is not exceptional). In a semester calendar students can step in and out twice a year; in a term calendar three times; and when summer school is available, an additional time as well. Where full credit is not awarded for prior work, the student can 'make up' credit deficiencies by adding on a few short courses in any term/year; or he can attend summer school; or he can choose to graduate at any of the points at which he might enter/leave, i.e. at the end of any semester/term or summer school session. The survey of 1978/79 modular programmes in English universities suggested that the most popular modular length was the whole academic session in nearly 91 per cent of university, and 61 per cent of CNAAs, programmes (Theodossin, 1981).

- 4 **Funding.** Apart from scholarships and awards, the US assumption is that students (or their parents) will pay for post-compulsory education. In Britain the reverse has been true, although there is central government interest in altering this situation. At present, the entire funding procedure is much debated without a clear consensus. The Leverhulme Report (1983) exposed

... divided opinions on whether greater flexibility should be introduced into the student support system through a combination of grants, loans and fees, so as to move 'voting power' towards the students in a manner which would be consistent with institutions becoming more market orientated.

A recent DES statistical bulletin (9/84), comparing UK student support in 1979 with student support in France, Germany, Italy, Japan, Netherlands and the US, concludes that in

... the European countries considered, the United Kingdom had the most generous arrangements, as virtually all full time higher education students aiming for an initial qualification received at least £335 maintenance annually, plus their fees. In 1979 the average grant level, at over £1000 per full time student in the United Kingdom, was much higher than elsewhere in Europe... In USA a student may receive support from a variety of sources, repayable when a student becomes gainfully employed.

The paying client finds it generally easier to transfer his custom. Burgess (1984) has argued for the emendation of particularly restrictive grant regulations in Britain.

Nevertheless, despite the facilitating features outlined above, transferability on the American scene, as Burn (1974) points out, has been fraught

with difficulties: in the granting of undergraduate academic credit, the criteria used vary among institutions, and impediments to the inter-institutional transfer of academic credits still exist; in general

... the qualifications for accepting credit require that the institution be accredited,³ that the credits be at least one grade above pass, and that courses accepted for transfer credit correspond to courses offered by the institution ... each institution ... works out its own compromises between student access and standards of excellence ...

Elsewhere (OECD, 1973a), we are informed that most transfers of short-cycle vocational graduates to long-cycle university courses (and vice versa) are possible only at the cost of 'a certain period of additional study'. Others have insisted that sticklers for 'precise parallelism' may refuse admission altogether or require that courses be repeated (Martorana, 1973); and that *lernfreiheit* and curricular coherence are incompatible (Miller, 1973).

Weitzel (1973) has produced a modular model to reveal the 'possibilities of bringing ... various studies together into a single comprehensive system' and formalising transferability arrangements. However, it remains unlikely that a neat and tidy formula will be agreed, or that more prestigious institutions on the British scene will accept courses in less prestigious institutions as automatically equivalent to their own. Nor is it necessary that all institutions participating in any national transferability scheme will move towards modularisation.

One form of transferability to which we have previously referred is that of recurrent education. Although its implementation has been described (OECD, 1971a) as 'a very long-term objective', there has been considerable OECD interest in applying 'measures which represent a potential step towards recurrent education' and avoiding 'reforms which block the way towards such a development', and it has been suggested (Gass, 1971) that

The logic of structural developments points towards a comprehensive system of post-compulsory education, based on a modular structure of transferable credits ... Within such a system, the feasibility costs and benefits of the applications of the concept of 'recurrent' education ... deserve close study.

On the American scene, Cope and Hannah (1975) have argued that 'Colleges ... should encourage intermittent or interruptible schooling and lessen requirements for continuous registration'. In Britain, Hajnal (1972) has seen modularisation as 'a step towards modifying the conception of a degree as an award for three years' uninterrupted full time study'. Ashby (1973) has taken the argument one step further and suggested that

As more and more people aspire to post-secondary vocational education, the reasonable response would seem to be to offer it in

3 The Journal of Higher Education, Vol. 50, No. 2 (1979) focuses on accreditation on the American scene.

modules in such a way that engineers, doctors, accountants, even lawyers, should renew their certification by returning to take modules in their expertise every decade or so throughout their careers.

Whatever kinds of transferability arrangements are evolved, their structure and functioning will be heavily dependent on political negotiation and the continuing support of administrative staff. The very existence of such arrangements means increased contact at an administrative level among institutions. The growth of any kind of enhanced administrative activity opens the possibility of administrators having a more influential part to play in institutional life, not merely 'administrative rationality' as Church (1975) suggests, but also, as he further alleges, through facilitating 'administrative control of academic activity'.

Given the difficulties described above, it is perhaps understandable that ECCTIS has initially chosen to concentrate on counselling rather than credit transfer, i.e. on creating a computerised 'educational courses databank' (1984) which reveals where particular kinds of courses are available rather than which courses can accommodate which kinds of prior experience towards advanced standing. The ECCTIS information newsheet also tells us that

What is now starting to be collected is the sometimes elusive data on existing credit transfer facilities. Given the nature of much of this information it will be some time before it can be stored in, and retrieved from the computerised databank. It will therefore be handled manually at first so that we can draw on it for written and telephone replies to enquiries.⁴

That the data is 'sometimes elusive' is hardly unexpected. Institutional autonomy is highly developed in the British education system. Open, automatic entry as a right, as in the Danish system (Theodossin, 1984), has won few supporters. We may expect that discretion will rule the situation, that inconsistency will not be unknown, and that educational establishments may be reluctant to advertise what credit transfer they have granted lest it be established as a precedent. On the other hand, poorly recruiting courses may well wish to tout for students. We are into highly sensitive areas where the political dynamic is likely to dominate the mechanics of a credit transfer system. Just such an awareness certainly informs Toyne's (1979) report, where the envisaged credit transfer service is described as needing 'to remain advisory and in no way to encroach upon the autonomy of individual institutions', a recommendation which Robbins (1980a) perceives as

4 It is intended by ECCTIS that 1986 will advance the cause of credit transfer considerably. The first bulletin on Facts about Credit Transfer Schemes was issued in March, and a 'state of the art' directory looking at credit transfer schemes and describing institutional policies is hoped for by the year's end.

... too deferential to the static conception of the service. It gives lip-service to those traditional aspects of our educational system which would militate against the development of a service...

Thus far ECCTIS is primarily a video-based courses manual. Whether it can also become an agency for facilitating student movement remains to be seen. Robbins' vision assumes a clear transfer of power:

Educational credit transfer would enable the ways in which courses are organised and distributed to be responsive to student demand. Flexibility of credit transfer implies the mobility of students towards concentrations of staff expertise rather than restriction to the limited expertise of staff within one institution. Credit transfer offers a possible and partial solution to the problems of course rationalisation.

Elsewhere Robbins (1980b) has argued for credit transfer within the European Economic Community.

Possibly the most potentially radical system of inter-institutional credit transfer currently being developed is the CNAA's Credit Accumulation and Transfer Scheme (CATS). This now subsumes a number of private consortia arrangements as well as the projected development (THES, 1984; CNAA, 1984c) of a polytechnic/university scheme in the London area. CATS (ECCTIS, 1986) provides an advisory service (for an assessment fee deductible from the registration fee by clients who subsequently study for an award at any CNAA recognised institution, but with the possibility of an unrefundable further fee for any credit exemptions granted) intended to offer help with those seeking 'an unconventional subject combination or an unavailable mode of study', with 'obtaining credit for previous study' and, when the council has developed appropriate criteria for assessing experiential learning, the prospect of credit exemption 'on a much wider basis'. CATS is being run by the CNAA's Credit Accumulation and Transfer Unit headed by Dr Derek Pollard (q.v. below, City of London Polytechnic case study). The next few years are likely to prove crucial for CATS.

NON-STANDARD ENTRY

Much of the previous discussion of modular courses has suggested that individuals have used modularisation for different (and sometimes conflicting) purposes, and similarly that they have used the vocabulary of modularisation with diverse intended meanings. A comparable situation exists with regard to credit transfer, where the argument has often centred on the student's being credited in one institution for work successfully completed in another. However, all learning is not formally organised in institutions. Nor does it necessarily occur within or through formal systems and procedures: hence the more general term

non-standard (NS) entry to refer to a variety of roads which can be taken to the same destination.

Toyne (1979) characterised the then situation thus:

Provision is made for the consideration of alternative qualifications for initial entry to courses in almost all forms of post-secondary education, including the professional institutions, and 'open entry' is characteristic of much of non-advanced further education and the courses offered by the Open University ... In almost all cases, however, applications for admission with alternative qualifications are considered on their individual merits, and where more formal arrangements have been made ... they are advisory rather than mandatory and each case is still considered individually.

Fulton (1981), writing within the Leverhulme programme, suggested that for degree courses

The 'A' level qualification or its 'equivalent' should continue to be the primary criterion, but all admitting units (departments or larger units, as appropriate) should admit at least 25 per cent of their students using other criteria, including aptitude tests, 'O' level or CSE grades, assessments of prior learning, personal 'learning contracts', and so on.

In conducting a study of NS entry to CNAA first degree and DipHE courses, Evans (CNAA, 1984a) found that 4.5 per cent⁵ of the 1980/81 entries might be described as NS, hardly an impressive figure. The explanation produced by Evans suggests that individual colleges tended to find discrepancies between the CNAA's Principles and Regulations and the ways in which the latter were interpreted by visiting party members, producing what is described as 'the influence of a mythology not of the CNAA's making'. In an earlier project (*Curriculum opportunity*, 1983) Evans paints an even bleaker picture:

With rare exceptions through all the responses to questionnaires and personal discussions there runs an assumption by most academic staff that the assessment of experiential learning is something they actually do. They do not ... To provide an adequate service for (perhaps increasingly) large sections of the population whose tax money funds the institutions, polytechnics, colleges and universities need to devise ways of taking experiential learning into account. To that end reliable assessment procedures are needed. At present in this country they do not exist.

Of course 'entry' is not the same thing as 'advanced standing', about which the evidence is even less impressive:

5 Such are the complexities and difficulties of obtaining accurate statistics, that Evans concludes that, 'It is impossible to know whether 4.5 per cent is too high, too low or correct'.

There are no figures recorded in CNAA Student Registration Statistics for admission with advanced standing. Enquiries showed the numbers are tiny. During all the conversations with course and admissions tutors in the visits to 24 institutions, only one tutor volunteered comment about admission with advanced standing for NS entrants. Not one case was found of an actual admission with advanced standing for an NS entrant. (CNAA, 1984b)

Such findings need not appear too startling. The CNAA is not an agency geared to leading revolutionary activity. Credit transfer is a relative novelty on the British scene. In the past few years, many FHE institutions have been fully preoccupied with accommodating increased student demand within the constraints of decreasing resource provision, hardly an atmosphere conducive to stimulating fundamental change. NS entry still leaves the burden of proof with the student; advanced standing, however, is much more open and risky for the assessor(s).

CREDIT TRANSFER AND THE MARKET

The recent attractiveness of credit transfer is thoroughly explicable. Demographic trends have formed a background to discussion for some years.

... the fall in numbers already occurring among younger age groups will soon reach 16-19 year olds, and ... a decline beginning in 1984 will continue until the mid-nineties ... Estimates derived from data held by the Office of Population Censuses and Surveys show that in England and Wales as a whole the number of 16 year olds will reach a peak of 841,000 in 1981. It will then decline by 34 per cent by 1993 to 556,000 ... (DES, 1980)

The Leverhulme Report (1983), following through the trend, suggests that

The next decade looks very different. In place of expanding demand from qualified school-leavers, the most likely prospect is a 25 per cent fall.

with which Fulton's (1981, q.v. above) call for 'at least 25 per cent' NS entry fits tidily. The conventional markets are due to shrink, and NS entry/advanced standing are not without consequent interest.

One can understand why so many writers and agencies should wish to go on record as supporting credit transfer. Not only does it appear to offer the possibility of substituting new segments for decreasing traditional markets, but it can be viewed through the rosy glow of social idealism, with opportunities for providing life-enhancing experiences for members of socially/economically/politically disadvantaged groups.

In its broadest sense credit transfer is essentially a market mechanism, designed on the one hand to extend purchasing power, and on the other to

promote consumer control. We have already noted Trow's (1981) description of US academic credits as

... units that can be accumulated, banked, transferred and within limits automatically accepted as legal academic tender towards an earned degree throughout the system ...

Trow contrasts American support for markets with the views of Europeans who

... tend to dislike market mechanisms in education, and do everything they can to reduce their influence. This difference arises out of our profoundly differing feelings about culture.

Europeans, Trow argues, regard HE consumers as less competent than their teachers and academic administrators, and attempt to preserve the 'integrity' of cultural institutions by reducing the influence of 'the incompetent mass on high cultural matters' through direct state funding and enrolment controls, and by trying to prevent the latter from governing the former. In the US, by contrast, enrolment-driven budgets ensure that institutions are extremely sensitive to student preferences, which, in a period of declining numbers, strengthens 'the standing of vocational and professional studies'. Europeans, he concludes, are anxious not to increase the power of students as consumers for fear of 'the effect on the character, quality and standards of their institutions and national system'.⁶

It is difficult not to concur with Trow's analysis, providing one defines Europeans (or British) in terms of academics. Despite persistent advocacy in the educational press, it seems highly unlikely that the notion of developing a market-led educational system would find many backers. At central government level, however, the situation may well be quite different. Certainly recent MSC interventions (**Training for jobs** and **Competence and competition**, both 1984) into FE suggest a very different attitude, but one which has met with staff opposition and not a little resentment from the education establishment. It is also an attitude which tends (see Chapter 6) to view the consumer not as student but as employer, a perhaps necessary corollary of a commitment to vocational training.

In the educational camp, one detects considerable mistrust of market-based philosophies. Thus, Michaels, a long-standing advocate of continuing education, particularly for women, can note (1979) overseas work in extending access through recognition of life and work experience (US)

6 In a study drawing upon credit transfer experience in Ireland and the Netherlands, Wynne (1985) reflects upon the UK scene and concludes 'that in all three countries the perceived need for over-all course coherence forms a formidable barrier against significant growth in the number of individuals granted advanced standing'. Elsewhere he employs a rhetorical question to focus attention on the political issues: 'Is it the student who best knows what he or she wants to study, or should this ultimately be the lecturer's decision?'

and providing separate entry quotas for those aged over 25 (Sweden), followed by a warning: giving 'extra points' to applicants aged 25 or over meant that young men and women were at a disadvantage, and mature women, with home commitments, even more so. In one year the proportion of women entering Swedish medical faculties fell from 55 per cent to 38 per cent. Market-led demand does not allow the provider to select clients/customers. Cutting prices may increase demand, but it is not always the poor who flock into the shop.

Despite the exhortations to develop a credit transfer system which we noted earlier (from the EEC, the Leverhulme Report, NAB, UGC, BTEC, CNAA, etc.), there is little evidence to suggest that the issues and implications have been thought through, or that the likely marketing consequences have been grasped and endorsed. Apart from the Open University and (on at least the level of potential) the CATS development one may describe credit transfer activity in Britain as still limited and tentative.

The module in action: five case studies

Apart from a limited number of national schemes, modular provision in Britain has often been an institutional activity closely bound up with internal politics, for which reason it will be useful to explore the origins and subsequent fates of modular courses in a number of institutions associated with their development. To four such case studies I have added a fifth, on the Scottish Action Plan, both by way of contrast and because it represents the most ambitious modular activity on the current post-compulsory education scene.

The underlying assumption throughout is that change activity is essentially Political/political, and hence unstable and in the process of unending modification: change is never complete and, given sufficient time, each alteration will be both the consequence of earlier and the harbinger of future activity. The research methodology employed for data collection is discussed in Appendix A. Collectively, the five cases cover major innovation strategies from 1963 to 1985 and are arranged chronologically in order of inception, with each case brought up to date in mid-1985.

A: THE UNIVERSITY OF LONDON

In February 1963 the University Board of the Faculty of Science considered the last of a series of proposals concerning students registered for special degrees who, while of degree standard, were unable to get honours in particular subjects. In March, a sub-committee comprising nine professors and chaired by the then dean, Professor J A B Gray, was set up to examine the problem. Nine meetings were held. Evidence was received from members of the faculty board and from scientists outside the university. The sub-committee also looked at the structure of science degrees in other universities and at statistics relating to the employment of London science graduates.

The dean/chairman and Professor J G Semple formed a working party which defined three approaches to the problem, each of which was subsequently written up by sub-committee members, thus providing three policy options. Scheme I involved adjusting the existing structure without

drastic change; Scheme II proposed more significant change and was broadly like the contemporary Cambridge Tripos; Scheme III, written and presented by the dean, was the origin of the course unit system and involved radical change in many directions.

In terms of background, the dean was influenced by his own Cambridge undergraduate course, where the choice of a single subject was left until Part II of the degree; by the requirements of his subject specialism, neurobiology, which had links with other subjects, was not taught in schools, and was an area to which students might appropriately come after entering university; and by his involvement, from 1962, in setting up the new University of Nigeria. The latter had been initiated by the Nigerian president under the joint sponsorship of the University of London and Michigan State University. The dean attended science symposia in Nigeria and worked there with United States staff to adapt the credit-accumulation model to Nigerian needs. Both London and Michigan staff shared views about the relative disadvantages of the British and American systems: that the one was too rigid and inflexible, while the other was too scrappy, lacking depth and component integration. With the Nigerian experience behind him, the dean was seeking a system flexible enough to allow for a range of options and to provide a good background for science graduates who might seek non-science oriented jobs, but which avoided a fragmented approach. The result was Scheme III.

The dean originally called the modules 'courses'. Later Professor Semple suggested 'course unit' because the word 'course' promoted terminological confusion, and a measure was required. The dean's conception was that: students would take four courses per year; half-courses were a possibility; 12 courses successfully passed would be required for a degree; there would be three levels of course, A (introductory), B (intermediate) and C (advanced, specialist); and all courses would be examined at the end of the academic session in which they were taught.

Scheme III offered another, more dramatic possibility: the abandonment of university science degrees. Each course would have to be approved by an appropriate board of studies (a university body) and the university would lay down requirements in terms of the minimum number of courses to be passed. The rest would lie with individual schools: the acceptable combinations/sequences of courses, and honours classification schemes. At this stage Scheme III did not envisage inter-school course sharing.

THE DEBATE OVER SCHEME III

Scheme III aroused considerable debate. In the early stages support came from chemists and physicists, who were interested primarily in the flexibility afforded to students and in the economies of shared teaching. At a later stage the biologists saw opportunities for developing courses which

crossed conventional subject boundaries. At a still later point the possibility of allowing more autonomy to the schools of the university developed momentum and became, in the dean's words, 'probably the most important reason for support of the proposal'. The appropriateness of such a change was underscored by the publication of the Robbins Report (CHE, 1963). There was clear criticism of the London federal system with its tendency for power to gravitate towards the centre, and a recommendation that the university's schools should develop increased autonomy. Robbins argued that unless London could put its house in order, an outside body ought to be appointed to conduct an inquiry. Scheme III was a ready made answer to Robbins. Moreover, as an innovation strategy, Scheme III possessed several other advantages. It was sufficiently flexible and adaptable to allow for subsequent alteration. The potential users had interests which were complementary rather than conflicting, and which could be accommodated by the scheme.

There were, to be sure, familiar arguments against such radical change. Some of the more prestigious schools argued that a named degree from a distinguished college was more attractive than a degree which could be assembled from course units at a number of colleges. Less prestigious schools claimed that a 'London' degree was held in greater esteem than what would be, in effect, a school-based degree. Others argued that employers would be confused. Additionally, the problems of external students of the university were advanced, as they had been on innumerable past occasions, as a justification for resisting change. There was also uncertainty about how a new system would affect the institutions with recognised teachers (IRTs) which registered candidates as internal students.

In February 1963 the dean's sub-committee delivered its report to the faculty board. The report claimed to be based on the consideration of a number of needs: attracting a reasonable proportion of highly able students; offering a sound science training to students of varied ability; making the degree structure more flexible; developing a system which was satisfactory for students at schools rather than IRTs (although the latter might be dealt with later); retaining university degrees, as distinct from those of any particular schools, and preserving the university status by means of 'federal' (extra-collegiate but intra-university) and 'external' (extra-university) examiners. The report used Robbins to substantiate its main line of argument.

There were extensive opportunities for consultation at all appropriate bureaucratic levels: school (faculties of science, a meeting of college science deans); intra-school (the Collegiate Council); and university (boards of studies, the Faculty Board, the Academic Council). In July 1964, after receiving replies from the boards of studies, from special advisory boards and from groups of teachers in the schools and institutes, the Faculty Board resolved that Scheme III should be adopted. In July 1965

new regulations were formally approved by Senate. The consultation process had resulted in significant changes. The two main aims of the new regulations were now to make students' courses as flexible as possible, and to give the schools as much academic freedom as was consistent with their students working for university degrees — the latter aim a long way from the sub-committee's original terms of reference. From our point of view, the main features of the new regulation were:

- 1 Students would have an opportunity to change a chosen field of study after one, or even two, years of study.
- 2 There would be the possibility of taking four years over a BSc, either (as in 1) because of altered direction, or because, in the opinion of his school, the student would benefit by an additional year in working for honours.
- 3 To assist students who had suffered in 'A' level courses from inadequate staffing, timetable restrictions, bad advice and/or wrong decisions, there would be introductory courses to allow for a shift in specialist commitment. Such courses would also be available to postgraduate students wishing to alter their field of study 'slightly'.
- 4 Courses cutting across traditional subject boundaries would now be possible.
- 5 All science students would be registered for the same degree, the BSc, awarded with or without honours. The student's status would be dependent not upon specialisation, but upon achievement.
- 6 In order to qualify for the BSc students had to satisfy examiners in examinations on courses which the university valued at no less than eight course units.
- 7 A course was any section of teaching and study which was examined separately. It could be of any length from half a term to three terms, though it was likely to last at least a term and unlikely to last more than two years. It would be taken concurrently with other courses. It might be run by one school or jointly by two or more. Each course would be devised initially by a school(s) and then submitted to the university for approval.
- 8 A course unit was defined as 'a third of the amount of work which an adequately prepared student can reasonably be expected to complete in a year, that is to say, one-third of the total work load which every student who is capable of obtaining a degree at all should be able to manage'.
- 9 Schools would: establish what combinations of courses their students might take; decide which, if any, students could take courses valued

at more than three course units in any given year; determine whether a student had completed his courses satisfactorily, the time at which each examination should be held, which method(s) of examination would be used; advise students who failed examinations and who wished to re-enter, who were uncertain which courses to take, who wished to change their courses, or who wished to postpone being considered for the award of honours.

After some disagreement over the starting date, it was finally resolved that the first students to enter under the new regulations would do so in October 1966, and that no students could register under the old regulations after October 1967. Schools had a maximum of two years to come into the new system. The development of that system, from its conceptualisation to its acceptance by Senate, took more than three years; and an additional year before the first course unit students arrived, by which time the dean, the initial change agent, had left the university altogether.

There was at least one other irony. In January 1967, the Academic Council set up a committee under Professor Sir Owen Saunders to carry out a Robbins-type inquiry. The Saunders Committee submitted an interim statement of principles to the Academic Council in May 1967. Senate debated the final report in July 1967. As well as advocating a general restructuring of academic organisation, the Saunders Report came out in favour of school-based courses and the devolution of power from the centre towards individual schools. Thus, what the evolution of the course unit system achieved by 1965 would have been perhaps more easily and readily available on an individual school basis only a short while later once the Saunders recommendations had been accepted. On the other hand, the recommendations of the Saunders Report were influenced and strengthened by the existence of the course unit system.

THE SPREAD OF THE COURSE UNIT SYSTEM

In February 1967 University College submitted to the Arts Faculty Board a proposal for a school-based course for BA honours in classics, Latin and Greek designed on the course unit basis in operation in the science faculty. The Arts Faculty Board decided to seek the views of all faculty boards of studies on the appropriateness of the course unit system. Six months later, having collected those views, the Board concluded that with academic restructuring likely to follow the Saunders Report, a course unit decision was inappropriate.

University College changed its tactics, withdrew its application, and, under the terms of the Saunders Report, requested approval for school-based courses for BA honours degrees in classics, Latin, Greek, geography and German, of which all except the German would be based on the course

unit system. Geography was already teaching for its BSc in course units and wanted to bring the BA into line. In January 1968 the Academic Council accepted the proposal in principle, but nearly six more months passed before Senate gave its approval. During this period the Academic Council canvassed views from appropriate quarters. Despite delaying manoeuvres, opponents failed in their endeavours because the matter had become a school affair in the post-Saunders era.

Once this breach had been made the path of course unit degrees at London went relatively smoothly. In March 1969 Senate approved a BA in mathematics and music to be run by Royal Holloway College, and in June of the same year a BA course unit degree in archaeology, where the BA/BSc problem had emerged, as in geography. Course unit degrees began in the faculty of engineering and the faculty of economics in October 1979. In the 1976/77 calendar four sets of regulations were collapsed into a single set for first degrees based on course units in the faculties of arts, science, engineering and economics. By this time, a decade after the first degrees, it was apparent that the use of course units in the arts faculty remained limited; and in engineering and economics there was less support than in the faculty of science.

In February 1978 the final report of the Academic Council Working Party on Master's Degree Courses was made available: this set forward general agreement in principle for the introduction of the credit system in master's degree programmes. There were already a number of modular school-based MAs in operation, but, since the university provided no transcript, the degrees were not officially so recognised in Senate House.

THE IMPLEMENTATION OF THE COURSE UNIT SYSTEM

As intended, the university's involvement in the course unit system has remained limited. At central level there have been minor administrative crises from time to time. Half of the definition of a course unit was left out of the 1965/66 calendar, leading to some confusion, but the missing portion was eventually restored and the whole strengthened by the insertion of 'a minimum of' before 'nine course-units'. In July 1967 Senate decided to issue graduates with transcripts giving details of the courses successfully completed and their value in course units, and stating the main field(s) of study. Opportunities for students to opt out of course units they might not wish counted towards the degrees were removed by tightening the regulations in 1966. On another occasion the university refused to allow course units valued at less than a quarter. In the 1980/81 session a new definition of course units was produced, now involving courses per year to a minimum value of three course units and a maximum value of four course units, each to carry an equal value. Students are also now required to pass a minimum of nine course units for a degree, although in practice

degrees may require successful completion of eleven out of twelve, or twelve out of fourteen course units. In a system designed to foster school autonomy, divergence and flexibility predominate, and much depends on how the school controls the system.

In my first round of interviewing among university staff in 1978/79, it was generally held that the course unit system had produced initially not a range of innovatory courses but a tendency to cut up existing teaching programmes. The tutor to science students at University College described the first course units as being created in haste and confusion during the long vacation, because few college staff had read the documents during the previous year. The provision for a fourth year had never gained much headway because of the need for additional student grants. Inter-collegiate course attendance was still seen as constrained by timetabling problems and London transport. Introductory courses were relatively rare. Entry requirements remained conventional. While small economies of scale may have been achieved within departments, by general consensus the course unit system had increased running costs. With students taking about three times the number of formal examinations they had taken previously, there was a need for additional accommodation, storage space, external examiners, printing and duplicating, postage, and administrative staff.

In the 1984/85 session one administrator described the intervening years as encompassing 'a lot of activity, but essentially no change whatsoever'. There had been a proposal to reverse the existing arrangement so that the university, instead of schools, would approve combinations of course units and the schools would approve the course units, which would in practice have resulted in courses free of university control, but the proposal got nowhere. Conflicting interests have tended to prevent significant changes.

There have, of course, been some modest changes, such as the altered definition noted above. In general, inter-school sharing has remained uncommon. A few collegiate courses are run for students of several schools, with schools taking it in turn to offer the courses, but the sharing originally envisaged has never materialised on a significant scale. Paradoxically, where sharing has begun to surface is among those schools whose merger has been proposed as part of the university rationalisation plan, although it could be argued that if course unit sharing had been extensively fostered over the past two decades the need for mergers, and the resulting economies of scale, might not have surfaced.

The above suggests that the course unit's achievements have been political rather than curricular. There have, of course, been some curricular developments which have been assisted by the course unit structure. Some measure of interdisciplinarity has emerged both in individual course units and in degree programmes, particularly in joint and combined studies. Subsidiary and main subject teaching have often

been integrated, and some individuals have established reciprocal exchange arrangements with colleagues at other schools.

In practice, course unit degrees have resulted not merely in faculty autonomy within a school, but in subject-department autonomy within the school faculty. The overwhelming majority of course unit proposals are virtually rubber-stamped by the appropriate boards of studies. Rejecting course proposals from large and prestigious schools is exceptionally rare. As one lecturer put it, 'They wouldn't dare!' There is no check outside the department for either curricular coherence or academic progression. Apart from external examiners, the department which teaches for a course unit degree is effectively self-determining with regard to candidate selection, course structure, content, teaching arrangements and assessment. Each school (which often means each subject) has its own formula for designating honours, with no central information on what is being done.

The university runs a course-unit registry. In the 1978/79 session about 10,000 course unit forms had been assembled, with about 6,000 on offer, although it was difficult to know for certain how many were actually in use: course units can be 'put to sleep' and then resuscitated; specialised course units may be abandoned if staff leave the university. In the 1984/85 session changes in personnel appeared to have left no one prepared to guess the then current total of course units.

The university's involvement with the system seems to operate on the level of quantification. Both course proposal and course amendment forms show a preoccupation with number, or with information which can be easily codified for computer storage: e.g. c.u. value, c.u. number, start date, hours to be spent in lecture/laboratory/field work, etc. There are approximately two inches (with an option of providing fuller information on additional sheets) in which to outline the general scope of the course. Unlike CNAAs, there is no need (or indeed room) to indicate aims/objectives. More recently the university has come to demand the title and official number of any prerequisite course unit.

The above obsession with number may be in part an inevitable consequence of the university's distance from the schools and of the scale of its operations. On the other hand, one may also argue that the kind of political 'deal' which the course unit system represented in the university's history has left it with no other means of legitimately expressing its concern, although individual administrators are not unaware of current curriculum debates and may question whether the university ought not again to exercise a fuller control over the degrees which go out under its name. It is not merely that the 'course-unit system has flexibility and possibilities which have not yet been by any means fully explored' (Stokes, 1979), but that its flexibility has been achieved most strikingly in individual school/department teacher autonomy, a consequence some distance from the objectives first articulated in the 1960s.

THE INSTITUTE OF EDUCATION AND COLLEGE DIVERSIFICATION

While modularisation may have enhanced school and staff autonomy within the university, in the 1970s that same autonomy was challenged in the evolving relationship between the university and the public-sector constituent colleges of the London Institute of Education. The 1972 White Paper (DES 1972a) appeared in December, proposing a cutback in teacher-training numbers in colleges of education, and college diversification into other courses through a course unit structure. At this time the London Institute was validating education courses in 24 institutions, including colleges of education, and it was envisaged, amid the first optimistic estimates, that diversification would involve something like 15,000 students. For the colleges diversification meant survival as teacher-training numbers declined. For the institute it meant the retention and possible extension of a vast empire and an opportunity to be at the central point of control in what seemed to be a major development in higher education.

There followed more than two years of academic debate not unlike that which had preceded the emergence of the first London course unit degrees. At an early stage a joint committee (of the Academic and Collegiate Councils) put on record its reservations about the reliability of the Government's statistical projections and about the present or future existence of unsatisfied demand of the quantity suggested. Nevertheless, Government policy had to be taken account of, and resistance would leave the university open to considerable criticism. There was therefore an early willingness to validate BEd and BED honours degrees, and more than six months later a similar commitment to validating diversified courses in colleges, albeit with some constraints. In June 1974 Senate amended the requisite statutes of the university so as to allow the innovations to proceed; in July 1975 Convocation approved new regulations. At a formal, surface level, all was proceeding well; at informal, private levels there were difficulties.

Within the university the course unit system had been on offer for nearly a decade to those who wished to use it. Compulsion was never attempted. However, diversification of the institute's constituent colleges demanded that appropriate boards of studies validate college course units, since the institute lacked teachers in many arts and science fields. Some science teachers viewed with anxiety the development of joint subject BScs in colleges while they themselves were developing such courses to overcome recruitment problems. Arts subjects, such as English and philosophy, which had never used the course unit system, were now required to approve courses within that system. Moreover, all faculties participating would have to adopt a common honours classification scheme, whereas there existed variations among schemes in the schools. In such instances

the course unit system, having previously facilitated the independence of the schools from university control, now ironically brought members of those schools back under central control, even if in no way affecting the autonomy of their own degree work.

Both the Academic and Collegiate Councils were concerned about standards and the adequacy of college resources: there would be a need for recognised teachers in the colleges, and for appropriate laboratory and library facilities; the university should be closely and continuously involved in planning courses and conducting examinations, including the appointment of examiners. Since the university was not in the business of subsidising public-sector education, suitable financial arrangements would have to be made.

From the beginning the appropriateness of the existing university course unit system was accepted and never questioned; indeed, the White Paper had used precisely that system by way of example. Therefore, what emerged looked on paper like a straightforward implementation of the original Government demand. In practice the politics of the situation ensured that it turned out to be something quite different:

- 1 Very few science degrees were allowed in the colleges, ostensibly because of inadequate resources.
- 2 The most determined arts boards of studies eventually forced compromise measures in the modular structure, e.g. the adoption of long, thin modules, involving study over two years and examined at the conclusion of the programme.
- 3 College students would be required to register for an approved package of units: the university would keep a firm control over content and course unit sequencing.
- 4 Colleges would be allowed only A (nearly 54 per cent of those on offer in 1978/79) and B units.
- 5 The kind of transferability envisaged in the White Paper never materialised. Among the 1975 registration (1125 students), only 23 (2 per cent) transferred to other courses in their institutions, while 206 (18.3 per cent) withdrew altogether; among the 1976 registration, comparable figures were 2088 students, 43 (2.1 per cent) transfers, 175 (8.3 per cent) withdrawals. The then deputy secretary of the institute's collegiate division suggested that the concept of transferability had not been accepted from the beginning in the university.
- 6 The university ensured that the new degrees were of a lower status than its own by: restricting the colleges to A and B units; creating a new degree, Bachelor of Humanities, which it did not itself offer; and resolving (through Senate) that greater experience was needed before transfer students could be admitted to London schools.

Collectively, by 1975, the diversified London colleges were able to offer applicants opportunities to read for the DipHE, and for degrees and honours degrees (BA, BSc, BH, BEd.). However, in the event, the anticipated 15,000 students never materialised; estimates fell to 9,000 and then 7,000 as two waves of college closures reduced the number of participating institutions. Among the surviving colleges recruitment was often difficult. Some institutions, perceiving the growing disenchantment within the institute, began to withdraw: to other universities, to amalgamations with polytechnics, to the CNAA. At the beginning of the 1978/79 academic sessions only five institutions were indisputably within the institute system, although a number of others were running out course unit degrees.

Nor was the diversification strikingly 'diversified'. In the first set of examination results from the colleges, in 1978, 736 BEd students were examined, of whom 383 received a BEd and 317 proceeded to honours, the remainder failing to complete or withdrawing. Among the others, in five colleges, 89 students received a BA, 25 a BH, and three a BSc, a total of 117, with one first and eight upper seconds. More than 86 per cent of these students intended to emerge as teachers.

By the 1978/79 session the university had begun the process of withdrawing from validation. Of the total (1610) units available through the institute, less than half (776) were on offer, with most (nearly 63 per cent) valued at half c.u., and the remainder largely at one c.u. More was being heard about 'standards' in the colleges. In the middle '70s there had been considerable criticism about the university's 'generosity' in validating courses within the colleges, and about its failure to make adequate resource demands.¹ Doubts were also being raised about whether diversified validation was any longer viable with such a small number of colleges and students. Costs were rising. One of the administrative problems involved the very looseness of the university regulations, framed for the schools, and the highly prescriptive nature of the programmes imposed on the colleges: resources were simply not available within the institute to check that finalists had in every detail followed approved programmes. A withdrawal date was finally fixed in 1979, with the last entry to the university's constituent (now termed 'associated' in a mood of disengagement) colleges to take place in 1983, exactly eight years after

¹ This was expressly denied by the institute's then director in a THES article (Taylor, 1975) in which he argued that while there might be differences in style and procedure between CNAA and university validation, there was no difference in standards. Allegations to the contrary he attributed to 'a quantity of impressions and prejudices', to anxiety of polytechnic people about competition and fears that university validation of small institutions would undermine the argument about size and quality being invariably related: ultimately, it was an argument about power and control. He advanced the merits of institutional and academic pluralism, and stressed the contribution universities had to make to the development of a varied pattern of post-secondary provision.

the first entry. The final examinations for the diversified courses will be held in 1988.

In London, far from shaping/influencing provision, modules have been employed by a large number of individuals/groups over a period of several decades to pursue a wide (and sometimes contradictory) variety of ends. Over and over the London course unit demonstrates the essentially facilitating nature of the module.

B: THE CITY OF LONDON POLYTECHNIC

The origins of the City of London Polytechnic modular degree go back to pre-polytechnic days. Throughout the '60s, Sir John Cass College found itself in an increasingly precarious position over recruitment and course validation. As an institution with recognised teachers (an IRT) preparing students for London special and general BSc degrees, the college (or at least some of its staff) came to realise that the new London course unit system meant a likely end to the external/IRT network, whose continuance was of decreasing benefit to the university amid rising costs and growing competition for science candidates.

In 1967 Dr R M W Rickett arrived at Sir John Cass as Vice Principal. Rickett had spent four years at the Illinois Institute of Technology and had come to admire the credit-accumulation degree and to believe that it represented the curricular structure of the future. In Wolverhampton, in 1965, he had made unsuccessful efforts to introduce a British version. The climate at Sir John Cass eventually proved more congenial.

In 1968 an attempt was made to put to the CNAA a scheme called an interdisciplinary degree in science. The proposal had been approved by the LEA, RAC and DES. The new degree would have first-year flexibility and would offer BSc Honours and BSc unclassified awards in specified subjects and in combined subjects. Unfortunately, the CNAA had no mechanism for handling so large a package involving so many specialist committees. Discussion continued to little effect until the submission was overtaken by events.

Because it was not a technological institution Sir John Cass had missed out in the formation of colleges of advanced technology in the fifties. It was now anxious not to become isolated amidst growing mergers and expansion. By 1965 its efforts to join, first the University of London (on the Chelsea model), and later City University, had both foundered.

Crosland's Woolwich speech in 1965 and the following year's White Paper (**Plan for polytechnics and other colleges**, 1966) pointed in another direction. By 1968 the college knew it would form part of a polytechnic, but there was uncertainty about which partner(s) would join it. Links via the governing body with the City of London College helped to steer a merger in that direction: there was no academic overlap, and City

of London had a number of CNAABAs degrees. 1968 and 1969 were spent in planning the new institution, whose formal designation as the City of London Polytechnic (involving also the senior department of King Edward VII Nautical College) occurred in May 1970.

At this point both the polytechnic directorate (now comprising three scientists and two ex-business school staff) and the DES concluded that the proposed degree would need to be extended into the business school. Indeed, the present assistant provost regarded such a decision as 'virtually forced upon the institution' by the DES once it became known that the new polytechnic would be formed by the union of science and business schools. There were obvious advantages. The joint submission would serve to forge links between the major partners in the merger and to promote institutional identity. However, when I began interviewing in 1978/79, one ex-business school view was that its own greater recruiting power had been used to balance any shortfall in science applicants; while a subsequent ex-science school view was that there was no such intention and that the new scheme was actually meant to lead to 'a net increase' in the number of science students. Whatever the explanation, in the business school, neither the merger nor the new degree offered real advantages, at least to those subjects — such as accountancy, economics and law — which ran their own specialist degrees, had no recruiting problems and saw themselves as required to prop up an ailing (if distinguished) science school.

The directorate offered assurances that existing degrees would be protected, although there could have been little point in closing down well subscribed specialist courses. On the other hand, some sections of the business school might be expected to support the new proposal: those subject areas which had functioned on a service basis and which might now come into the new scheme on the same level as metallurgy or physics; and some individuals in powerful departments whose promotion prospects might be enhanced by additional developments in their areas.

What emerged from the internal negotiations was a package degree encompassing primarily natural science and social science subjects. In November 1971 the polytechnic submitted to the CNAAB a proposal for an interdisciplinary degree scheme 'in specified subjects and in combined studies'. Discussions followed over a period of more than a year. There were differences between representatives of the physical and social sciences CNAAB panels. The council doubted that the options could be timetabled across the 13 polytechnic sites, and would not accept 'in specified subjects', which it saw as a device to obtain approval for 18 specialist degrees. There was disagreement over whether the degree was multi- or interdisciplinary in nature.

On 12th January 1973 the polytechnic was visited by 65 members of the combined studies group, newly set up by the council to consider the proposal, after which the scheme was approved except for several subjects

which entered somewhat later. The course could begin in the autumn of 1973 and the polytechnic was allowed to advertise, provided it did so with 'caution'. It was for an **Observer** advertisement (25th February 1973) that the then course director, M Brandon-Bravo, coined the term 'modular', the first time that a degree had been so named in English higher education. By calling the degree 'modular', the polytechnic avoided the problem of designating its provision as multi- or interdisciplinary.

The City modular degree was a scheme worked on a semester basis, in whole and half modules, with students able to take a maximum of three and a half modules per semester, and requiring, dependent on whether the degree was to be unclassified or honours, that students complete between 16 and 18 modules and satisfy the examiners in between 11 and 15 modules. The first semester was given over to basic courses, involving several subject disciplines; the second semester to introductory courses in specific subjects; and the remainder to advanced course modules.

IMPLEMENTATION AND MODIFICATION

The difficulties encountered by the modular degree must in part be attributed to the scale of the innovation, a scheme cutting across traditional faculty boundaries and implemented concurrently with a major organisational merger. As at Hatfield Polytechnic (q.v. below), two wide-ranging, synoptic innovations pursued simultaneously must inevitably increase institutional strain beyond what might be anticipated in a phased, incremental development: the total becomes greater than the sum of its parts, if only because there is a tendency for both innovations to be viewed as linked, and for any animosity aroused by one to be reflected upon the other. In the business school, for some staff, modularisation came to be seen as the means by which the science school asserted its supremacy.

The polytechnic directorate members whom I interviewed in 1978/79 argued that the scheme's problems stemmed from innate CNAA conservatism. This is, to a certain extent, fair comment. In any event the degree predated the validating machinery needed to handle so complex a package. On the other hand, there were a number of features in the proposal which must eventually have come to be seen as problematical:

- 1 When the scheme began operation in 1973 it employed a one-page set of regulations which, according to the assistant provost, might be described as 'vague'. The scheme therefore ran on a 'case law' basis until the council, in November 1975, demanded regulations by the following April. The first full regulations ran to 36 pages.
- 2 The delayed regulations must in part explain how students were initially able to avoid taking the kind of breadth modules needed to

fulfill the council's Statement 4 regulation requiring the attainment of broad educational aims.

- 3 The scheme was meant to embrace specialist degrees, as the unsuccessful attempts to include awards 'in specified subjects' indicate. Rickett admitted in interview that he saw the scheme as a 'way of opening up' the educational system.² Once people saw a modular degree as allowing professional access to a law career, what was the purpose of a law degree? In the long run, what would go was the undergraduate degree in its traditional form. In addition, the polytechnic negotiated with professional institutions to enable students who had successfully completed appropriate modules to gain exemption from qualifying examinations; and then advertised the facility in its recruitment literature.³
- 4 Like the American system from which it derived, the scheme made provision for concentrated study in any of its areas begun *ab initio* at the point of entry. For example, while the polytechnic might try to match two (of the three) student's basic courses with study beyond 'O' level, the student with no chemistry 'A' level could theoretically also choose the basic physical science course, and (provided he passed the requisite assessment hurdles at each stage) go on to take the introductory chemistry course and then concentrate on advanced chemistry modules. When to this was added the possibility of exemption from the Royal Institute of Chemistry's Graduate Membership examinations, the way was open to allegations of 'back door' entry from critics of the scheme. One member of the CNAA chemistry board suggested that the matter had been a source of 'grave concern'.

For students, the City modular degree offered a new range of freedom and choice. The scheme's first course director argued that:

Modular degree schemes vary quite considerably but they do share an underlying philosophy. They seek to provide a greater variety of student choice, both at entry and later, and a means either of following broadly based studies in several disciplines or of specialisation by means of in-depth study of a particular subject. In other words, they are flexible and student-centred rather than structured and course-centred.⁴

- 2 In a 1971 THES article, Rickett is quoted as describing the scheme as 'an academic philosophy rather than a simple degree'.
- 3 In the 1985/86 prospectus applicants are told that, 'It is possible to take a programme of studies that is recognised by many professional bodies and which gives exemption from various qualifying examinations'. Twelve such bodies are now included covering the fields of accountancy, biology, chemistry, law, mathematics, metallurgy, physics and psychology.
- 4 From an unpublished paper.

For the polytechnic, the scheme's potential for unconventional entry to specialisation meant that the institution's recruitment base had been considerably extended. Indeed, one of the scheme's distinguishing features has been its accessibility to non-standard students in pursuit of non-standard entry: in the 1981/82 session, only 42.3 per cent of the entry came direct from school and 37 per cent were aged 21 and over (with the oldest aged 47). In the 1983/84 entry, 27 per cent were over 21 years of age, and of these 22 per cent arrived from access courses and 31 per cent from partial qualifications and work experience. The present modular degree and diploma scheme offers a DipHE exit point (though little used), covers 22 subject areas in science, social science and business studies, and from the second year onwards is available on a mixed mode (full and part time) basis.

However, client flexibility has tended to be regarded with unease by validator watchdogs. In its 1977 resubmission the polytechnic argued for 'majoring', a specialist study recognition commonly employed in US degrees. It showed, for example, that of the 178 students graduating in 1977, 155 (64.4 per cent) had devoted eight and a half or more modules (from a maximum 14) to advanced modules in a single subject area. The scheme was based on a commitment to choice: students, through choice, had demonstrated their intrinsic conservatism, and their concern with employment prospects. The polytechnic was not claiming that its modular graduates had obtained 'named' specialist degrees: it wanted 'majoring' as a *post-hoc* recognition that the student had spent the majority of his second and third years working within a single subject discipline.

In the same resubmission the polytechnic acknowledged that students were able to obtain a CNAA degree while failing to comply with the Council's Statement 4 breadth regulation; but it insisted that only a tiny group of students had done so (i.e. six, or 3.3 per cent of its 1977 graduates), and that it would be inappropriate to impose constraints on the majority. The council disagreed.

The result of the 1977 resubmission was two one-year extensions and a requirement for changes before a full five-year validation period could be granted. In 1979/80 the council agreed to permit majoring, but at a price. In future, students who wished to major would be required to follow much more restricted routes through the degree, as laid down by appropriate subject boards. Majoring has been brought in on a subject-by-subject basis; it is acknowledged on the transcript, but not on the degree certificate (although the polytechnic has never sought the latter). To the 14 areas of study (accountancy, biology, chemistry, economics, geography, geology, law, mathematics, metallurgy, physics, politics, psychology, sociology, statistics) available as majors, attempts were being made in 1984 to add both French and computing/information technology studies. To ensure the CNAA triumvirate of structure, coherence and progression, students wishing to major, 'must propose their entire programme of studies by the end of their first year of approval'.

Additionally, the 1977 resubmission led to the polytechnic having to produce genuinely 'inter-disciplinary' modules and to demonstrate how students would in future be unable to avoid the Statement 4 requirement. There was also an assumption from the council that if students had previously been able to evade the Statement 4 regulation, and to specialise so fully, then the counselling must be at fault, a somewhat ironic criticism since the modular degree's progress has been throughout accompanied by considerable attention to counselling, including a two-tiered structure involving groups of about a dozen counsellors working under the supervision of a senior counsellor, and a voluntary remedial reading course for overseas students. The polytechnic's response to the CNA A criticism was to create another administrative tier, year co-ordinators.

At least part of the polytechnic's difficulties in 1977 may have arisen from what the then modular course director, Dr Derek R Pollard, felt was a possibly 'too open' resubmission proposal. Indeed, the introductory volume set out problems and dilemmas in a way which invited, if not disapproval, at least highly critical advice. The submission also included copies of an MA thesis on the modular degree. The thesis was frank about staff disagreement and referred to the 'mixture of delicate diplomacy and power politics that originally brought subject areas in, and now retains them' (Thomas & Willcocks, 1977). However, 'delicate diplomacy and power politics' are perhaps a feature of the implementation of most educational innovations. At City the modular degree's validation difficulties may perhaps more accurately be attributed to its arriving on the scene before the CNA A was internally organised (and intellectually disposed) to deal with such a scheme, and to its genuinely radical approach to undergraduate education.

CHANGE-AGENT STRATEGIES

Unlike the development of the London course unit system, the City modular degree did not emerge from a protracted consultative process in which the academic community were given opportunities to debate and to choose from among a group of options. Rather, the modular degree arose from the continuing influence of a small number of powerful, senior administrators: Rickett (first college vice-principal then polytechnic vice-provost) who, supported by the principal/provost, Dr A Suddaby, was encouraged to develop the scheme; the first modular course director, M Brandon-Bravo, subsequently assistant provost; DES civil servants (especially Sir Toby Weaver); and Dr E Kerr, whose support of the proposal, after his appointment as CNA A chief officer, was seen as crucial.

In the typology of innovation strategies (Chin & Benne, 1970), the change agents may here be said to have effected power/coercive approaches.⁵ The initial change-agent, Rickett, later the director of

Middlesex Polytechnic, recalled that in a thesis (by a City lecturer) he had been called 'the Rasputin of the educational system'. One might also recollect Thomas and Willcocks' epithet, 'delicate diplomacy and power politics'. There seemed to be a general feeling among all of those interviewed that the innovation had come from the top and proceeded downwards, internally, against resistance and through 'persuasion'.⁶ Over all, the modular degree might be seen as an imposed innovation in which the institution's lecturers played nothing like the significant part in modifying the innovation as at Hatfield (q.v. below). It is possible that in a merger involving split-site establishments no other kind of strategy could have secured the survival of a college beset by recruitment problems and needing both to find a new validating agency and to evolve a much altered programme of work, with time running out all the while.

Initial feelings in the business school often derived from a conviction that its courses attracted a larger proportion of students and were worked at a less favourable SSR; and that in the early days a larger number of science school staff had become leading members of the directorate. From the business school's viewpoint, its contribution was not accompanied by commensurate influence at policy-making levels. The overstaffed areas were widely recognised. Appearing on committees was a way of getting known and of enhancing one's career prospects: this was easier for overmanned groups.

Because the scheme has served some interests better than others, the commitment which it has inspired has varied considerably. Sociology was a service subject in the business school; now it functions as a major within the degree. On the other hand, law, with an oversubscribed specialist degree, can afford to remain somewhat aloof: law modules have been consistently in demand and competed for academically among modular students.

Discussion of the business school's attitudes might suggest that opposition to the modular degree was unknown in the science school: this was not the case. Many science staff viewed the new modular structure with a mixture of distaste and apprehension. The directorate's task thus involved winning support from the science school as well. Here, as in the business school, some individuals, and some subject areas, saw themselves as having more to gain, or to lose, by going modular.

An unequal distribution of resources was certainly a feature of the City scene when I first interviewed there in 1978/79. With the passage of time, and the inevitable resource cuts, many of the extremes have moved towards the centre. There has been natural wastage among teaching staff,

5 Predominantly, but not exclusively; in any event, empirical/rational and normative/re-educative strategies are frequently the means by which a power/coercive approach is effected.

6 Although the degree director suggested that appropriate academic board approval had been obtained at each stage of development.

plus some retraining and redeployment. The local authority has been conducting a review and some sharing has been started with other London polytechnics. In addition, the polytechnics' admissions to degree courses have been cut by 10 per cent, so that the 450 maximum intake has been reduced to 400-410 per annum, still, however, a considerable advance on the entry of 260 in the 1978/79 session. The dropout rate, mainly at the end of the first year, varies between 13 per cent and 17 per cent, with an examination failure rate of 3.5 per cent.

THE LARGER CONTEXT

In the polytechnic as a whole the modular degree represents something like 40 per cent of the first degree and higher work, including eight 'named degrees', four of which have subjects which overlap with the modular degree. Therefore, for individual departments, the modular degree can be either the primary or the secondary undergraduate programme, which contributes to a dynamic which makes unequal partners of the participants, and which perhaps reveals the scheme's origins, in that (q.v. Hatfield, below) it has been grafted onto the degree work of some groups and with other groups been used as the initial/replacement degree work. This, too, leads to some measure of component/subject isolationism, commented on in an internal CNA document after the 1977 resubmission, and is further influenced by the possibility of considerable specialism for modular degree students after the first year and by the dispersed accommodation on which the polytechnic works, nine sites, of which four are used for modular teaching.

In more recent years, the City modular degree has been steered by Dr Pollard.⁷ The 1984 resubmission resulted in approval, without conditions, for a further quinquennium, with the polytechnic now possessing devolved authority to make changes within the scheme of a developmental nature, but stopping short of the introduction of an entire new major.

The scheme's origins, on at least a conceptual level, are, of course, American: opportunities for a high degree of specialism in what, on the English scene, tends to be regarded as a structure suitable primarily for general (multi-/inter-disciplinary) undergraduate work. At least some of the modular degree's earlier validation troubles must be attributed to its intrinsic innovatory nature. One doubts that a smaller, less prestigious institution would have been allowed to produce a similar scheme: a little bit of the US midwest transplanted to the City.

The modular degree has other American connections as well. Prior to its

7 Now Registrar of the CNNA's Credit Accumulation and Transfer Unit (q.v. above).

introduction the polytechnic had a visiting-student arrangement with the US College Centre for Education Abroad, known as the Beaver Programme and drawing upon Americans from 200 colleges and universities. In the business school the modular degree was first seen as historically linked with the Beaver Programme: there was suspicion that Beaver represented 'playboy' courses for rich Americans. In later years academic achievements, both within the modular degree and among Beaver students, have helped to break down such prejudices.

The US-type semester calendar, used in the polytechnic only for the modular degree, is obviously helpful in accommodating the needs of Americans. In the first semester approximately 150, and in the second 200, Americans arrive at the polytechnic. Since the vast majority of these students are liberal arts undergraduates, the polytechnic's natural science departments have only limited contact with the Americans. However, other departments might be said to have found the Americans a useful additional resource: they have permitted some otherwise under-subscribed options to be run; they have facilitated the running of additional modules where necessary (either by paying for part time lecturers or for additional part time contracts for polytechnic staff); and they have provided an international dimension for indigenous students. The Americans are augmented by smaller numbers of students from Hong Kong, West Germany, Denmark, Switzerland, France and Canada. It is hoped that in 1986 the original intention of providing an American-type summer school will be realised.

C: THE OXFORD POLYTECHNIC

At the time it was designated a polytechnic in April 1970, Oxford College of Technology sustained four external London degrees, but was not an Institution with Recognised Teachers. Its record with the CNAAB was unimpressive, and most of its proposals had been rejected. Before the year was over a number of significant changes had occurred: a new director (Dr B B Lloyd) arrived; London gave notice that it intended to stop bulk entry to the external system; and D R A Mobbs was appointed a principal lecturer in biology.⁸

Mobbs had returned to Britain from a post at the University of Zambia, where the vice-chancellor, a Canadian, had imposed a course unit structure with four units per year, but no choice. Mobbs felt that the Zambian system worked badly and that he could learn from its deficiencies. His commitment to a modular structure gained support from the then director, who was interested in choice, in economies of scale, and

⁸ Mobbs had applied for a senior lectureship

in some of the technical devices (such as slot timetabling) about which Mobbs was enthusiastic. Supported by his head of department, Mobbs was given relief from teaching duties to work on course development.

With the impending withdrawal of London validation, the institution was receptive to new ideas. Mobbs himself felt that he was 'the new broom' and that 'things were working' for him. He was seeking to develop the widest possible range of courses, so that each person 'could reach his potential in academic, professional and vocational work' (which he saw as 'not separate') in such a way that changes of direction would be possible at many points. However, had he put forward a radical package, with organisational, administrative and hierarchical implications, he might have encountered resistance. Instead, the sketch was clear only in his and the director's minds, and what was done was to begin in a limited area, biology and geology. Later, Mobbs was joined by other subject groups.

Mobbs started work on the project in January 1971; in May 1972 the proposal was sent to the CNAA; it was approved after a one-day visit in November 1972 and the first intake arrived in the autumn of 1973. The Oxford Modular Course was the first multi-disciplinary modular course validated by the council.

What Mobbs and his colleagues produced was a scheme working on a term pattern, normally with four modules per term. Stage I occupied the first year, prior to which the student had chosen two 'fields', groups of educationally associated modules, or one 'double field'. In Stage II, the second and third years, the student had to pass at least 18 modules from his field(s), 21 for honours. All students had available to them a 'fail-safe' device which meant that, apart from spending about two-thirds of their time on the field(s), they could explore other subjects where they would be taught with 'field' students in 'mixed-ability' groups. Because the student could venture into unfamiliar territory without permanent penalty, educational breadth would present no difficulties.

Although students were accepted for specific fields, they could later change their field(s) with requisite staff approval. Mobbs saw first-year choice purely as a planning, administrative device, assisting the polytechnic to arrive at numbers. At the end of Stage I, students were required to select (with counselling advice) the whole of their Stage II programme, although, again, there were opportunities for changing to different modules. Approximately 30 per cent of students modify their programme of studies each term.

Terms were to last ten weeks; examinations to be held in the eleventh; and marking to be completed during the vacations, so that students and staff returned for the new term with assessment results available. The course which began in September 1973 was a BSc scheme offering: single fields in biology, geology, mathematical and computer studies, and physical sciences; and double fields in environmental biology, geology and environment, and human biology.

THE INCREMENTAL DEVELOPMENT OF THE MODULAR COURSE

In 1974 the scheme was extended to encompass a BA as well as BSc honours programmes, with the addition of eight single fields and one double field. In 1975, in conjunction with Lady Spencer Churchill College of Education, later amalgamated with the polytechnic,⁹ the modular course was further enlarged to allow for BEd honours, BEd and DipHE programmes; five new single fields were added, and education was approved as a field in BA and BSc honours programmes. Later in the same year, and in 1976, four more single fields entered. By 1984 the number of fields had grown to 35, there were five named degrees available within the course, and all major areas of the polytechnic were represented except architecture and engineering. In addition, in 1978, the polytechnic was allowed to extend the course to provide for part time and mixed mode (full and part time) study. New regulations were drawn up on a part time basis, so as to encompass all modes of study: Stage I must be completed within two years, and Stage II within five. The numbers of students on part time study have grown from 12 on Stage I and nine on Stage II in 1978/79 to 37 and 99 on comparable Stages in 1982/83.

So rapid a charting of the scheme's growth might suggest an unbroken stream of easy successes: this was not so. The first efforts to include arts subjects began with considerable opposition, arousing what the then director called 'fine rhetoric', until at the end staff who had put up an independent BA agreed to a Course Assessment Committee request to recast in modular form: there was strong support in geography, psychology, anthropology; slightly borderline support in English; and opposition in history, French and German; history of art staff voiced no strong reactions in either direction. Later, there was a stormier passage with the CNAA than science had encountered, a general feeling among some visitors that modular structures did not suit arts degrees; and the development of synoptic finals examinations for honours candidates in some fields.

In other ways the CNAA has been less enthusiastic. A modular civil engineering submission met with such resistance that the proposal was recast in more orthodox form. Another area which volunteered to come into the modular course, publishing, was first rejected by the council because of inadequate resourcing but allowed to enter in 1983. There have been difficulties. As the present dean of the modular course has written (Watson, 1985):

The increasing interest and sympathy of colleagues in other institutions, and the extremely high demand for places on the course have not, however, been matched by correspondingly positive attitudes among those responsible for its validation (CNAA), its approval (the

⁹ Formally in 1976, after the modular union.

DES), or its funding (NAB). One of the key points to note about innovation in the public sector must surely be that the constraints lie frequently less within the institutions than with those bodies controlling them from outside . . .

The Oxford scheme is the biggest, most extensive in scope, and most highly innovative (within the conventional constraints of British HE provision) of the modular schemes here discussed. It was also the modular package which met with the greatest initial institutional support and, in relative terms, the easiest CNAA passage to existence. Both the then director and Mobbs independently suggested that the scheme's success within the polytechnic was dependent on its not going through all the democratic, academic committee machinery. There had never been a formal motion before the Academic Board that the institution should or should not go modular: the director felt that such a motion would almost certainly have been defeated. From his point of view confrontation was undesirable; it was difficult to achieve objectives by formal decision, and much better to keep things slightly vague. Mobbs felt that the board had accepted modularisation in principle, but not with apparent knowledge of details or implications: development had occurred by 'pragmatic growth'.

THE SUCCESS OF THE MODULAR COURSE

If one seeks to explain the relative ease with which modularisation has been achieved at Oxford, the aspects discussed above offer at least a partial explanation. In systems terms the organisational environment was supportive. As a change agent, Mobbs arrived in the right place at the right time with a solution acceptable to both superiors and peers. The innovation was promoted incrementally, thereby reducing institutional strain: some areas, such as the social sciences, volunteered to come in; others, like arts and humanities, were persuaded to enter; but none was forced to modularise (two, noted above, have continued to go their own ways). Therefore, the user system was highly supportive because it contained largely those who saw the innovation as serving their interests. Nonetheless, there were other characteristics of the implementation strategy which mark out the Oxford scheme as different from the others considered here and which help to explain another part of its appeal to the CNAA, staff and students.

- 1 **Preparation.** Great care was taken with the introduction of each field into the scheme. Twenty three-hour meetings were scheduled because 'at least five three-hour meetings are required' to overcome initial problems of group interaction. In order to enable subject teachers to learn how to defend their submissions, 'devil's advocates' were used to question basic assumptions and to challenge commonly held beliefs.

- 2 **Presentation.** The Oxford modular materials are likely to strike the experienced reader of institutional literature as remarkably clear, complete and commendably brief. It is difficult to find any area which has not been thought through fully.
- 3 **Administration.** The organisation and operation of the scheme has been centralised and is still run by a staff of six. The modular office functions around a computer devoted to administration only and dealing with approximately 13,000 applicants, 2,300 student examinations three times a year, all records and timetables, examination lists, resource analyses and projections, and also tracking of recruitment offers.¹⁰
- 4 **Modular size.** Mobbs' basic conception of a module was 100 hours of student effort, with about 35 hours of formal teaching contact, including some combination of all or some of lectures, seminars, tutorials, and practicals (the latter counting as one-third of the clock time). By keeping the unit as small as possible, design possibilities were enhanced and choice points increased. He had successfully resisted a plea for half-modules by arguing that assessment would be virtually impossible, but had eventually given in 'gracefully' on modules which were an aggregate of the 100-hour unit. With new fields, and with the demands of CNA A validation teams, there had grown up a range of modules, one to three terms in length, single to quadruple in weighting.¹¹ Modules of varied lengths are a particularly British innovation, as previously noted, but the use of a small measurement unit is relatively close to the American credit hour and provides an extensive range of modules of various weightings. The basic length of a term for the smallest (and the largest number of) modules was criticised at other polytechnics and by at least one CNA A officer as being too brief for effective learning.
- 5 **Avoidance of stress points.** At Oxford the use of term-long modules means that assessment occurs in the natural calendar breaks while students are away. By demanding fairly conventional entrance requirements and by accepting students for named fields, the scheme avoids the problems encountered by City in this area. On the other hand, 'with the permission of the field-tutor', students can change their fields once on the course and follow a subject they have begun *ab initio*, although it is unlikely that they can move from two single fields to an entirely different double field, the nearest equivalent to City's option possibilities. In 1981/82, there were 180 field changes among 621 students, although changes are unlikely to

10 Documented in Report by HM Inspectors on computing services at Oxford Polytechnic.

11 Not every possible combination is available. In the last CNA A resubmission the range of acceptable variation has been reduced.

occur very far into Stage Two. One might say that the Oxford scheme allows the maximum manoeuvrability consistent with not arousing the anxiety of vested interests among the education establishment.

- 6 **Change-agent strategies.** During the formative interactive period, before the innovation's inception, Mobbs' position within the organisational hierarchy was that of a principal lecturer in a teaching group. Even later, as Dean and chairman of the Modular Course Committee, he remained an individual without the authority to impose the innovation. In the typology of innovation strategies, the only means of gaining support among the user system was through the use of empirical/rational and normative/re-educative strategies (Chin & Benne, 1970). Therefore, Mobbs needed both a scheme which offered genuine advantages to the groups he was seeking to win over, and the ability to convince them of those advantages. That he succeeded to a considerable extent on both counts was shown by the large proportion of colleagues who either chose or agreed to enter the scheme, and by the personal tributes consistently paid to him among the staff whom I interviewed. In gaining support for an innovation within a higher education institution, where academic tradition tends (at least on an ideological level) to exalt the merits of the empirical/rational and the normative/re-educative, such strategies may often be more effective in gaining organisational support. At higher status levels there is obviously less necessity, and possibly less time, to persuade through argument and explication; it may also be considered less appropriate to do so.

Winning over colleagues and obtaining CNAA endorsement are only the first stages in curriculum innovation: the real test must come with student support, and here the scheme has been especially successful. From 1973 to 1983, despite falls and rises in student demand at other institutions, the modular course has each year received increased applications. Of course, to some extent this reflects the growth in the number of available fields during this period, but there has also been increasing demand for entry to the course. In 1983 there were 10,000 applications from which 691 students were admitted bringing the FTE equivalent for the whole course to 1997. In addition, in 1982/83 there were 124 'occasional' students, members of non-modular courses in the polytechnic making use of individual modules to fulfil their breadth requirements, polytechnic staff, students trying to qualify for a degree course (in the polytechnic and elsewhere), foreign students, disabled students, students pursuing personal interests and local residents in full time employment. Of the 35 single and double fields available in 1982/83, only one had an enrolment under ten, and two had failed to reach their projected target enrolments.

THE INNOVATION OVER TIME

While no innovation as extensive as the Oxford modular scheme can be seen as the work of a single mind, Mobbs was clearly a major driving force behind the Oxford development. He described himself as a 'catalyst', and the director in post during the course's formative years saw Mobbs as the 'prime architect' of the scheme and extremely effective in energising the staff to work with him on the science side. His effectiveness was later shown in taking in other subjects onto the scheme.

In 1973 Mobbs became Dean and Chairman of the Modular Course Committee. In 1976 he resigned over differences about the direction which the scheme's leadership should take. For a time, the deputy director took over as Chairman of the Modular Course Committee, followed by two deans elected from among heads of department. In 1980/81 it was decided to make the post permanent and the present course director, Dr David J Watson, was appointed as an outside candidate. Inevitably, of course, there have been other changes of personnel, and with such comings and goings changes in emphasis and leadership style.

The fate of any successful innovation is that it is assimilated into the organisation and ultimately loses its association with the initial change agent. Having functioned as a catalyst in the early stages, the change agent recedes into increasing obscurity (at least in relation to the innovation) in later stages: from the institution's point of view, the structural device through which its activity is organised belongs to everyone. Ultimately, the initial change agent is forgotten. At Oxford, by the late seventies, the then dean saw the degree as very much the consequence of collective effort. At London and City, the initial change agents were identified only after many months of research: with the arrival of new staff, and with consequent organisational development, the innovations had acquired an existence of their own.

However, it is not only change agents whose positions alter. The innovation itself is in a process of continual evolution, often, it must be said, both away from and back towards the condition from which it was intended to represent a departure. We have already noted the tendency from one-term single modules towards multiple-term double and triple modules (and hence reduced examination/choice points), followed by the recent attempt to limit the possible variations. The revised 1984/85 regulations also involve a reduction in the number of Stage II modules required, which has the effect of increasing student time available per module and reducing the number of assessment points. The basic module remains 'defined as one-twelfth of the notional effort of the full time honours candidate in one year', but the advanced module has become 'one-tenth' of the comparable effort. The resubmission volume accompanying the proposed changes makes interesting reading with more than a dozen appended external examiners' letters, in which the writers are generally

in favour of reducing the number of advanced modules, citing the apparently widely held view that decreased breadth leads to increased depth. However, one writer notes the elusiveness of 'depth as a concept' and questions whether increasing the size of modules may not also lead to a more extensive exploration of the 'shallows'. In writing of the course's achievements, the current dean (Watson, 1985) describes the new size of advanced modules as 'a minor redefinition', a perfectly fair assessment, but one which is also in line with the British tendency to shift any modular system towards larger components by increasing modular width, length and/or weight.

The 1983 CNAA resubmission also sought, successfully, to move the scheme fully towards 'named' degrees, noting that the CNAA initially approached modular courses 'with scepticism or even suspicion', acknowledging that 'there is agreement that in the long run this benefited the modular course', but listing 'some curious anachronisms': the way the course is described in CNAA publications; the way the course is described on degree parchments; and occasionally in the way elements of the course have been validated.

The term modular course (as in modular degree at City) has tended to be seen by the validators as a euphemism for 'general' degree, i.e. a lower status award which does not entitle the recipient to term himself a specialist in any area(s). At the same time, at the institutional level the interests of both staff and students have ensured that there has been continuing pressure towards the identification of specialisms. At Oxford that pressure has led to the introduction of double fields at an early stage in the course's development, and more recently to named degrees, both of which reflect an underlying suspicion of the worth of breadth or general education. To be sure, the literature (q.v. credit transfer, above) abounds with encomiums of the virtues of breadth, but at the functional level the general commitment to specialisms reasserts itself: the CNAA remains a fierce gatekeeper, determined that entry to the citadel will be achieved only after appropriate effort. Both at Oxford and elsewhere (c.f. City above and Hatfield below) the difficulties encountered in establishing modular courses have been closely associated with the protection of specialism.¹²

Another anxiety about modularisation is that it represents a means towards economies of scale, and hence a cheaper form of education. This commonly held belief must result in part from arguments advanced by early advocates, but in the context of relatively (compared to US) small institutions such as those which abound in the UK, it is very unlikely that genuine economies can be effected. Watson (1985) writes of

12 The Oxford arrangement will allow the names of fields to appear on all student parchments for double and existing BSc Honours, and for combined BA/BSc Honours to appear as **combined studies in** . . . At the time of writing, a decision on how to title BEd work has not been settled. These changes represent a considerable modification of prior CNAA attitudes.

... the (I think misguided) suspicions ... of some members that modularisation is the shape of the future — a direct consequence of cost-cutting — and hence must be shown not to work.

His conclusion is that modular courses, including his own at Oxford,

In fact ... require generally the same level of resourcing for the appropriate delivery of academic subjects as other courses, and may indeed be marginally more expensive in such areas as examination costs.

the latter point corroborating the London experience (q.v. above).

Despite obvious difficulties, the Oxford Modular Course remains the one most easily introduced and modified among the three institutional schemes discussed in this section.

D: THE HATFIELD POLYTECHNIC

At the time of its designation as a polytechnic, on 1st January 1969, Hatfield College of Technology was already running a large number of CNAA degree courses and had established a reputation for specialist, applied science work related to the needs of local industry. There was no necessity to seek a new validating agency (as at Sir John Cass) or to establish credibility in high-level work (as at Oxford). Hatfield was able to avoid the stress of split-site working and the traumas of a merger. Freed of the strains which beset other fledgling polytechnics, it had the opportunity to contemplate its own development in an atmosphere of greater security and self-confidence.

After the 1966 White Paper Hatfield started work on the drafting of an academic development plan for the polytechnic, and this was published in 1966/67. In 1970/71 the polytechnic began considering its possible goals during the next decade. In 1971 and 1972 a series of discussion papers was made available for wide distribution and subsequent debate. Featuring prominently among these papers was an interest in modularisation.

The central figure in modular development, and the initial change agent, was the then Assistant Director (Academic), J A P Hall, who had been influenced partly by the student unrest of the sixties and partly by Hajnal's *The student trap* (1972): the promotion of student choice seemed an appropriate polytechnic goal. For Hall, modularisation also had the virtue of facilitating resource economies. Since the institution already had a range of specialist degrees, what were needed were broad degree courses, 'non-specialised, non-professional and occupation-free'. Collectively, all of these considerations seemed to suggest institutional modularisation. If existing specialist degrees could be modularised, then each degree scheme could become a resource pool from which appropriate modules could be extracted and recombined into broad, general degree programmes. With

the utmost economy, the polytechnic would be able to extend and develop its work in new directions. Service teaching, liberal and general studies, complementary and contrasting studies — all of which underlined and emphasised inherited barriers and visions — could be eliminated. Modules would enable shared teaching to occur. The same module could serve different purposes for different students.

The then director, Sir Norman Lindop, offered encouragement. He, too, had been impressed by Hajnal's arguments, and further convinced of the merits of modularisation through involvement in the Higher Education Policy Group.¹³

Among the discussion papers, mostly written by Hall, there appeared in 1971, 'Modular Course Structure', produced by two heads of department, K W Thomas (biology) and J W L Warren (mechanical and aeronautical engineering). This paper considered in some detail the possibility of term-long modules, each to represent one-thirtieth of an honours degree course. Thomas was in the process of introducing some modular organisation into a CNAA biology degree; Warren had doubts about modularisation.

On 25th May 1972 the Academic Board considered the aims, objectives, general academic policy and academic priorities of the polytechnic, and, among other resolutions, determined that sub-degree and first-degree programmes should, wherever possible, be organised on a modular basis since this enabled the polytechnic's objectives to be attained 'with flexibility and with economy of resources'. It declared further that as a general academic objective 'modular structure shall be adopted wherever appropriate'. The meeting then considered a proposal by Thomas and Warren that

... there is sufficient advantage in the principle of modularisation of polytechnic schemes to justify a searching investigation into the problems and practicability of modularising existing and projected programmes.

The board concluded that a small group of staff should be seconded for the investigation.

THE MODULAR RESEARCH TEAM

Before long Thomas and Warren reversed roles: Warren now became the advocate of institutional modularisation; Thomas became an opponent. When it came to designating a 'small group of staff', the assistant director retained Warren (who had, in any event, volunteered), and, in place of Thomas, added A C Weir, a philosophy senior lecturer who had indicated an interest in the modular project.

Warren insisted that the job be done seriously. After some delay, an office was found for the team and a part time secretary was provided. The

team was seconded from 1st November 1972; Warren's notes showed their first entry as having been made on 3rd November, and their last on 16th May 1973. Warren and Weir set out on their task with some thoroughness: they made contact with all British institutions which either had modular courses or were in the process of modularising areas of work; they visited a number of these institutions; they corresponded with the University of Pennsylvania; they interviewed all Academic Board members, and a selection of other members of staff; they offered interviews to anyone who wished to talk to them, held open meetings for staff and students, and placed draft papers in the libraries. Between April and June 1973, they produced three documents:

MS 1, Survey of modular first degree schemes in the United Kingdom.

MS 2, Degree courses in the United States of America.

MS 3, Report of the Modular Structure Planning Group.¹⁴

Of these volumes, the most substantial and important was MS 3. However, despite its title, it was more than a 'Report' and formed the basis for a proposal. Whether Warren and Weir were intended to produce a polytechnic modular scheme is doubtful. Warren felt that the board decision justified the team's coming up with a structure; as an engineer he tended to look at end products. Weir felt their proposal was essentially appropriate, and the board could either accept it or not. The team never considered offering alternative schemes. They had resisted the incremental model because Hatfield was 'behind' other polytechnics already and needed to 'catch up'. Since the polytechnic had separate CNAAs degrees, there was 'no impetus to pursue an evolutionary process'. Warren felt that a 'large part of what happened was dictated by the humanities' and by Weir's desire to offer five subjects per year in that area.

What occurred at the Academic Board in June 1973 was basically, on paper at least, a total acceptance of Warren and Weir's proposal. At a first meeting, the board adopted the scheme 'in principle', unanimously, and without (according to Warren) actually taking a vote. At a second meeting, somewhat repetitiously, the scheme was gone through item by item, but only minor amendments were made, such as reducing the semester from fifteen to fourteen teaching weeks, and increasing the integral vacation from two to three weeks. In November 1973 the Academic Board published a **Policy statement on the common modular structure for programmes of study**. All schemes of study starting in 1974/75 were to use the common modular structure 'wherever it is appropriate', and those beginning in 1975/76 were to do likewise, '... unless there be good reason for not so doing'.

¹⁴ **MS 4, The educational implications of modularisation**, was written by C A Hawkins (1973).

According to Warren, resource issues were not the starting point of modularisation at Hatfield. In the early days of the Academic Development Committee, chaired by the assistant director, modularisation was seen as 'the thing that would draw in students'. Only later did the resource dimension become paramount. Certainly by the time of MS 3, economies appeared as the dominant theme. According to the research team, modularisation would: promote sharing among and between HND, degree and honours schemes, master's programmes; permit different modes of study and ease transfer between modes and from field to field; reduce wastage through duplication of lectures; assist in reducing contact time in over-taught areas, thus easing accommodation problems; through the promotion of part time study, increase evening utilisation of accommodation; save timetabling effort by the use of a slot timetable, which could be printed in the prospectus; assist in the production of remedial self-instructional materials, thus freeing teaching resources; and, in general, reduce the teaching/administrative burden by something to the order of 25 per cent.

What Warren and Weir produced was a modular structure involving two semesters per session, with a module defined as

... the unit of measurement of knowledge/skill ... fixed as one sixth of the knowledge/skill which can be assimilated per semester by a good honours student. (MS 3)

Thus, honours students might accumulate 36 modules over a period of three years, but there would also be a minimum number of modules as well, 30 for honours, 24 for a degree. In addition, there could be double and treble modules lasting for one semester, and double and quadruple modules lasting for two semesters. However, single and double modules lasting one semester were to be 'favoured'. This was strengthened in the 1973 Academic Board Policy Statement: '... in order to reap the benefits of the modular structure ... because of the greater flexibility which they confer'.

REACTION AGAINST THE MODULAR POLICY

That the Common Modular Structure did not have widespread support, despite the apparently wholesale acceptance of the academic board, must have been clear to many individuals. After all, in June 1973, along with the appearance of Warren and Weir's MS 3, there had also been made available MS 5, **Modularisation and schemes of study**, written by Thomas, once the proponent of modular-course structures, now an opponent. Thomas argued that MS 1 showed that polytechnics were without experience of operating a modular structure and that:

An abrupt change into an unproven structure can be dangerous and can do irreparable damage to those student generations who are exposed to it.

Opposition mounted, assisted by a CNAA reaction dated 15 November 1974, suggesting, among other points, that:

- 1 The numerical difference between honours and ordinary degrees was too rigid.
- 2 The arguments in MS 3 were administrative rather than academic.
- 3 There was concern over the sharing of modules by degree and non-degree students.
- 4 One-semester modules could be much too short and could allow insufficient time for students to assimilate the material.

Within the polytechnic, a Policy Review Group was set up and met for the first time on 15 January 1975.¹⁵ It was meant to review the institution's progress towards modularisation and to advise the academic board on 'what, if any, changes are required to be made' to the Policy Statement. Haste was essential. The first report was to be presented to the board on 10 March 1975. The result was MS 6, **Report of the policy review group on modularisation**.

Both the CNAA and a significant proportion of lecturers within the polytechnic shared deep concern about the common modular policy, though for apparently different reasons. MS 6 made it clear that two misconceptions about modularisation existed within the polytechnic, and set out to refute both:

- 1 The polytechnic was not seeking 'to gradually eliminate its specialist schemes of study in favour of a "cafeteria" system'.
- 2 The main benefits of modularisation were not to be found in the sharing of modules, if only because the areas in which students might share involved accommodation (such as lecture theatres) were too small to make sharing practicable.

While the Policy Review Group could not 'claim to have ascertained the views of the majority of staff', it nonetheless concluded that what was required was adaptation of the Common Modular Policy and set out to recommend ways which would make it 'less rigid and more able to meet the needs of different academic disciplines'. The group drew attention to the concept of spare study time and to Warren and Weir's suggestions about how it might be employed: to study other subjects in the early stages so as to keep options open; to study complementary or contrasting subjects;

15 Weir 'refused' to participate; Warren had left the polytechnic.

to take courses aimed at educational breadth; to accelerate the study pace; to allow for repeats or catching up; for taking further specialist courses; or simply to devote more time to the other modules. Additional study was necessary to determine how the spare-study capacity might be 'legislated for'.

MS 6 dealt with a large number of problems in considerable detail. By providing, in the early stages, 24 'advantages' to a modular structure (13 of them culled from the CNAA 'Reflections' document), the Group showed that at no point was it seriously considering abandonment of the Common Modular Policy as an organisational option, despite fairly strong and widespread opposition throughout the institution. Without such opposition, MS 6 would have been unnecessary. It was characteristic of all of the Hatfield efforts that the organisation seemed to be committed to the production of a single solution arrived at by the accommodation of all dissension: the failure of one paper answer seemed to generate another paper answer. In range and scope, the Policy Review Group functioned within the same style and approach as Warren and Weir.

Following further academic board discussion, in July 1976, the directorate issued Academic Memorandum No.15, amending the 1973 Policy Statement. Maximum contact time was now increased from three to four hours per week per module. One semester modules were no longer to be 'favoured'. Warren and Weir's classification system for module 'levels' was reduced from five to four categories and relabelled. Only five modules were to be specified for concurrent study in future programmes. Academic Memorandum No.15 was sent to the CNAA and approved in December 1976, subject to the reservation allowing subject boards to require schemes to depart from the provisions of the memorandum 'if they find a particular part of it unacceptable for the course in question'.¹⁶

In September 1976 the polytechnic printed a new document, **Common modular structure for schemes of study: a general description**. From our point of view, the major change was the provision of free-choice modules available for spare-study capacity. These free-choice modules might be either constituent courses of other programmes, or independent free-choice courses. The latter move, while it may have been necessitated by the genuinely specialist nature of so many degree schemes, may also be seen as having effectively undermined the initial modular conception: by putting breadth education into a separate category, rather like sixth-form general studies, to be divorced from the main focus of academic activity; and by reducing the possibility of sharing, and hence increasing the need for additional resources.

16 I.e. the council did not accept it. One CNAA officer suggested that the proposal had been put to the council's General Committee which had concluded that 'the council couldn't validate a structure with nothing in it because this would force boards of study to accept the structure'. It was apparent that Hatfield staff were not enthusiastic about modularisation. All that now remained of the common modular policy, according to the officer, were free-choice modules, common modular size and assessment.

THE FAILURE OF THE CHANGE-AGENT STRATEGIES

The problems encountered by modularisation might be seen as the result of four change-agent strategies, any one of which might have generated problems, but which together proved insuperable:

- 1 **Synoptic implementation.** By insisting on total modularisation of all undergraduate courses, the change agents ensured that the innovation would create maximum stress and that the stress would emerge simultaneously from many quarters across the face of the polytechnic. Despite an escape clause permitting course developers to argue against a modular structure, it was expected that each degree scheme would be presented to the CNAA in modular form at its next resubmission, and that all new schemes would be modular.
- 2 **Use of the academic board.** Both the directorate and the research team might be said to have 'pressed' the academic board into acquiescence, if not genuine acceptance, although in essentially different ways. In the first instance, the board's agreement to modularisation 'in principle' before any plan of implementation and its consequences had been worked out was an almost certain road to difficulties. In interviews, several alternative (or complementary) reasons for the board's action were offered: the academic director had the board 'eating out of his hand'; the 'staff hadn't done their homework and didn't know how to challenge'; the board felt that their tacit agreement 'wouldn't commit them'.

Secondly, Warren and Weir were virtually irrefutable. With nearly seven months of full time, institutionally funded research behind them, and four volumes of elaborate argument drawing upon a mass of data, the team remained unchallengeable. As Warren put it, 'Amateurs had MS 1 to 4 to read'. Weir felt that the structure they presented had been 'conceived as coherent', and the board could not remove one part without rejecting the whole.

Thirdly, Warren and Weir had the directorate's backing. Although they had not been asked to come up with a proposal, and had worked independently, the team clearly had management support and were enabling the directorate's aspirations to be achieved with apparent democratic support.

Finally, the board would have looked foolish had it rejected the consequences of what it had accepted 'in principle', while providing no alternative means of implementing that principle.

- 3 **The dismantling of the departmental structure.** At the same time as the modular policy was about to be implemented, the then director decided to institute a matrix management structure and to

replace 14 departments by five schools. The director felt that departments grew by the development of courses, and courses became the focus of agitation for a new department. At first the college had had a Department of Natural Science; when biology got its degree, there was agitation for a separate department; and similarly with civil engineering and psychology. This led to separate attitudes: the polytechnic would have ended up with 25 or 30 departments.

Logically, one might see the directorate's decision as involving the affirmation of the same principle at different levels: just as the modularised courses were to be regarded as resource pools from which individual modules could be reassembled into new degree schemes, so staff within a broad school structure could be seen as independent resources to be utilised where required. It is not within our scope to go into the intricacies and problems of the Hatfield matrix structure, but the emergence of schools may be said to have affected the modular policy negatively in two ways:

- (a) As at City, the simultaneous implementation of two major innovations compounded the amount of institutional stress. Each innovation was likely to attract some of the hostility directed at the other. In the words of one lecturer, the directorate was changing 'two major parameters at the same time'.
- (b) Paradoxically, the abandonment of the departmental structure, while it may have alleviated anticipated difficulties in one direction, also removed an area of support. Since the directorate's aim was to use already available modules for new degrees, it was, in effect, attempting to create new degrees without any significant resource input: if successful, the end result would frequently mean larger, mixed-ability teaching groups — increased productivity without lecturer benefit. Of course, areas with recruiting difficulties might welcome the innovation, but fields working with an acceptable SSR might well prove hostile: modularisation tended to disadvantage the strongest teaching groups.

- 4 **The failure to anticipate opposition.** One Hatfield lecturer suggested that the assistant director, having seen and noted the rational validity of an idea, assumed that others would view it in the same way. The directorate certainly appear to have found the opposition to modularisation somewhat bewildering. In reply to a question about what top management had done to mitigate the anticipated effects of opposition, the then director indicated that very little had been done, 'apart from saying the obvious thing', that there would be no change until the next CNA review; and allowing some

schemes in the middle of revalidation to delay modularisation until the next resubmission.

The opposition arose not merely because the heads of department had disappeared, but because the new work which modularisation was intended to create was clearly work of lower status, i.e. general degree work as opposed to special, single-subject degrees. In a well recruiting field, there could be little incentive for lecturers fully engaged in specialist work to seek to take on general teaching.

THE COMBINED STUDIES SCHEME

It will be recalled that modularisation at Hatfield was intended as a means to the production of broad, general degree schemes utilising existing modules. Once the Common Modular Structure had been accepted, the directorate went to the RAC in June 1974, and again in July of the following year, to secure approval for a combined studies degree. There was some initial difficulty in obtaining RAC permission, but once this was granted work began with a 1977 starting date in mind.

The ensuing difficulties seem to be attributable to a number of causes:

- 1 Early discussion centred around a general, combined studies degree, and it took more than a year for the proposal to emerge in terms of a BSc only.
- 2 There was lack of support from powerful individuals. According to the then director, 'the people at the top were trying to estimate whether it was a winner'. Biology seemed at first unwilling to cooperate, claiming that specialist biology modules were inappropriate in a general degree; when a group of biologists eventually came forward, it was for the development of a new area, human biology, and required new modules.
- 3 There was a leadership problem. The director felt 'in retrospect' that 'we put responsibility for the development on people with insufficient seniority at the time'; the problem was one that 'faces course development if it's not associated with career development'. The CNAA was critical. Some subject groups had blindly followed the directorate's urging to use sub-sets of existing degrees and had done so without thought: the council blamed the central committee for allowing this to take place.
- 4 Apart from utilising existing modules, the scheme was intended to help with recruitment in under-subscribed areas. Unfortunately, some subjects chose to promote recruitment in ways deemed unsatisfactory by the council. By removing the need for 'A' level or its equivalent from combined studies, chemistry provoked the criticism

that specialist modules were inappropriate for less well qualified general science students. By trying to use its minor offering from a BA humanities scheme, astronomy left itself open to criticism that general sciences courses for arts students were inapposite in a BSc scheme. Both subjects required complete rewriting. Indeed, the problem of entrance requirements compelled the polytechnic to abandon its aim of promoting transfer into and out of the scheme.

- 5 A considerable proportion of the polytechnic staff remained uncommitted to the scheme and uninterested in its development. At the time the most enthusiastic support came from areas such as chemistry, which had recruitment problems, or physics, which had only a part time scheme in operation and looked forward to having full time physics majors.

The combined studies scheme was rejected by the CNAA in May 1978; the following September staff started rewriting the proposal; and in November a Director of Combined Studies was appointed to provide leadership.¹⁷ The rewritten scheme went to the Council in January 1979 and was approved informally in February and officially in April. It had taken nearly five years from the first approach to the RAC to CNAA approval of the BSc Degree and BSc Honours Degree in Combined Studies.

The director thought it was 'perfectly true' that the degree had not worked out as expected; the assistant director that the polytechnic had 'set out to draw totally' on existing modules 'but couldn't do it'. Ironically, the areas most fully able to use modules from current schemes were in the humanities and social sciences, which provide Minors. Allowing for modular weighting, the combined studies scheme had involved the writing of new modules for 44.6 per cent of the available courses. Even that figure, however, is something of an underestimate; among the Major and Twin-Mode subjects, within which students would spend approximately two-thirds of their time, nearly 60 per cent (58.5 per cent) of the modules were new.

Not all of the new modules were produced solely for the combined studies scheme. A special category (17.4 per cent) were actually parts of schemes either before or about to go before the CNAA. If development teams could not draw upon existing schemes, they would put combined studies modules into other scheme resubmissions. Moreover, chemistry combined studies modules were now one semester 'out of step' with their specialist modules, and the resubmission of the specialist degree was their only hope (later achieved) of getting 'back in line'. The whole of the scheme showed that nearly a third (29.3 per cent) of the modules were two-semester varieties.

17 Concern about students on a course with no 'home' base also led to space allocation for a combined studies office and student area.

By May the polytechnic had started a £2,000 advertising campaign to attract students. The director was hoping for 60 students in the first intake; the course director thought 40 a more realistic goal; 28 eventually arrived.

THE MODULAR COURSE STRUCTURE OVER TIME

Of the four institutions here discussed, Hatfield was the only institution to commit itself to modularisation as a common policy. In the University of London, City of London Polytechnic and Oxford Polytechnic, modular courses are offered alongside a range of traditionally structured courses. By the time of its 1981 CNAA institutional review, Hatfield could claim in its supporting documentation that

From 1974 onwards, schemes of study, as they have been recast and revised, have conformed to a common modular policy; the polytechnic has adopted a semester pattern for the academic year, and students' programmes of study have been built up from modular blocks each of which is based upon the semester unit . . . The overwhelming majority of the full-time and sandwich courses are now organised on the modular pattern.

The 1985/86 prospectus informs potential students that

Our **common modular** course structure gives the opportunity for flexibility — it allows for changing vocational interests, different entry backgrounds and varying rates of study to be taken into account and makes transfer easier between levels of courses and different modes of study. This is a particular feature of polytechnic philosophy.

One might therefore not unreasonably expect Hatfield to be the most modular of all the institutions presently under scrutiny here. In fact, the reverse is true.

In the prospectus noted above (and indeed in all earlier volumes) there is nothing to indicate to the potential student that he is about to encounter anything unusual in terms of curricular organisation. The other three institutions (London, City, Oxford) provide definitions and glossaries; Hatfield offers nothing, no description of what is meant by module, and in the section on the combined studies degree, which one may view as a prime end towards which the modular course structure was intended to contribute, not even the word *module* occurs.

Of course, in the period of more than a decade since the structure was first proposed, Hatfield, like most higher education institutions, has undergone many radical changes. In the early 1980s there were repeated cutbacks in staffing, accompanied by increased recruitment of students. In September 1983 a new director, Dr John Ilston, took up his post. The directorate as a whole was reduced to two from a maximum of five in the

mid-seventies. The NAB exercise has left in its wake reduced student numbers in some areas and increased student intake in others. The matrix structure has been modified to accommodate increased demands on resource management, with the roles of deans significantly changed. The kind of ideology which prompted Warren and Weir's work in the 1972/73 session, and the resourcing level which made it possible, now seem increasingly remote. However, it appears highly unlikely that, despite the extended flurry of activity, Hatfield was ever very fully committed to modularisation across the whole of the institution, as distinct from a handful of enthusiastic individuals.

Firstly, modularisation in public-sector HE has been repeatedly associated with general degree work, and Hatfield was, and is, an institution distinguished by the range and variety of its named specialist degrees. Both the education system and its associated structures (professional, hierarchical, examination, reward, etc.) are organised to promote specialisation and to establish the general as distinctly disadvantageous. What City and Oxford have striven towards, Hatfield has all along already possessed. Where London has extended its validation to include general degrees, as in its constituent colleges of the Institute of Education, it has ensured that such degrees are of lower status. In Hatfield the most powerful and prestigious teaching groups have tended both to possess specialist courses and to recruit to their target figures: for such groups the introduction of general (and modular) courses can seldom have appeared an attractive proposition.

Secondly, with increased demand for HE degree places from the 1981/82 session onwards, many of the teaching groups in Hatfield which had previously experienced recruitment difficulties found themselves for the first time in years having to turn away qualified students, a situation exacerbated firstly by a redundancy exercise forced upon the polytechnic by the local authority and secondly by NAB cuts. Throughout the early 1980s little has occurred at Hatfield to make general degrees appear anything like as desirable as they seemed in the early 1970s.

Thirdly, it will be recalled that the assistant director's original argument for modularisation at Hatfield included a commitment to broad degree courses which were non-specialised, non-professional and occupation-free. In the context of the early 1970s, such a goal was perfectly consistent with the kind of educational expansion envisaged in Mrs Thatcher's White Paper (DES, 1972b) and with the assumptions which led to the advocacy of the DipHE: the belief that it was socially and economically desirable for a larger proportion of young people to experience some kind of broad, general education in HE institutions. In the mid-1980s, even specialist degrees are likely to appear eventually occupation-free when their recipients fail to find employment.

Such explanations perhaps help to account for the seemingly paradoxical fate of the Hatfield Combined Studies Degree. Its initial

recruitment of 28 students in 1979 was followed by 40 (1980), 92 (1981) and then a cutback to 80 (1982) as part of a forced decrease across the whole of the polytechnic. Present (1985) offerings also include a reduction in available options: the list of minor options has been reduced by seven, and mechanical engineering science has withdrawn from the list of majors, now numbering ten. The recruitment literature stresses flexibility (leaving final choices to the end of the first year, combining subjects to fit interests and abilities), but it also reveals its institutional status (albeit perhaps inadvertently) by answering the question **What is combined studies?** (in part) thus:

The Hatfield Polytechnic has many excellent 'specialist' or 'named' degrees. Indeed, one of the strengths of this Combined Studies degree is that the students on it will be, in most cases, sharing lectures, laboratories and tutorials with students on the 'named' degrees.¹⁸

One suspects that in an institution less committed to specialist teaching in the same curriculum areas, the combined studies degree might have encountered more internal support and been allowed to recruit larger numbers. Of course the bulge is destined to move through HE, with the likely result that the traditional markets for specialist degrees may shrink: in an altered recruiting situation, combined studies may yet come to occupy the place it was intended for more than a decade ago.

E: THE SCOTTISH ACTION PLAN

The fifth case, the Scottish Action Plan, offers a series of striking contrasts with the previous four. They were institutional innovations, whereas the Action Plan is a national initiative; they offered alternatives or additions to existing provision, while the Action Plan has been introduced as a replacement for all else; they followed attempts at consultation, but the Action Plan, despite provision for soliciting public opinion (q.v. below), has been largely imposed from above, a top-down central government initiative directed at all involved (or potentially affected) provision; they have been in operation for approximately ten to twenty years, unlike the Action Plan, which at the time of writing is not yet fully implemented, and will not be for some time to come.

18 The combined studies scheme was successfully revalidated in May 1984 when it was described as 'successful' and able to attract 'enthusiastic students who are enjoying their studies', while also depicted as 'largely in the position of reacting to developments taking place with the parent schemes', with the suggestion that combined studies might 'benefit' from establishing a position whereby its committee might be able 'to initiate desirable changes'. There are hopes (via the engineering and technology 'switch' programme) of increasing the 1986/87 entry to 110. A new brochure has been written and (according to the director) the changes demonstrate 'the confidence of the scheme'.

The origins of the Action Plan lie in public responses to a 1979 Scottish Education Department (SED) 'Consultative Paper', **16-18s in Scotland: the first two years of post-compulsory education**. Mack (1984) has written of this paper that although it

... suggested various approaches to improved, rationalised provision, and asked a number of searching questions, the outcome of the consultative process was relatively disappointing; no clear basis for policy formation emerged from the disparate responses, although there was an evident recognition that a change was needed. In the end, proposals for reform were developed in SED and the 16-18 Action Plan was published in January 1983.

That the paper elicited disparate responses can surely have surprised no one. Those consulted were offered not alternatives or options, but broad philosophical questions (e.g. 'What can be done to induce more young people to participate in post-compulsory education and training?') following a masterly catalogue of endless variables, of which the following is typical:

The duration of full time study might vary according to the area of vocational emphasis, the needs of the student, the availability of employment, or the opportunities for industrial training and further education. This group of pupils constitutes about 60 per cent of the age group and there would have to be provision within these courses for a wide range of abilities and attainments; the methods of teaching would also have to be adapted to suit. However, experience has shown that useful progress can be made provided the students are sufficiently motivated.

At a conservative estimate there are nine variables listed in the above passage (and hundreds more in the document) but it is unlikely that even so few could elicit from hundreds of thousands of potential respondents what might eventually be construed as a consensus. Where the paper was specific was in its analysis of structural modifications (e.g. consortia, tertiary colleges, etc.), but among the final six questions intended to solicit 'views both from within and from outside the education service on the main issues identified in this paper' there is not one which would inevitably have led respondents to suggest ways of altering curriculum organisation in the direction of what eventually emerged as the formal solution.

The Action Plan was devised initially within the SED, and its conceptualisation was overseen by HMIs, with W R Ritchie playing a central role. The detailed production of the plan has involved representatives of all interested parties, although the adequacy of this consultation process has been contested (q.v. below) upon occasion.

The Action Plan is intended to take the post-compulsory non-advanced further education curriculum and to organise it into modules, 'a self-sufficient unit of instruction normally lasting forty hours'. There are **general modules**, 'appropriate to a whole variety of purposes', and **specialist modules**, relating 'to an activity of a narrow kind', of which a

sub-set are **integrative modules** 'intended to avoid the danger of programmes of study appearing to be composed of discrete modules, giving an impression of disintegration'. There is the possibility of both fractional and multiple modules among approximately 1200 different modules. There is provision for prerequisites, and students can take modules at varying rates.

Each module has a **descriptor**, providing a title, identifying the type (general or specialist), a purpose (indicating broad aims and probably target audience), the preferred entry level (expressed in terms of achievement on previous modules), the learning outcomes (approximately five, covering knowledge, skills and behaviours), content, learning/teaching approaches, and assessment procedures. The plan allows teachers some choice in terms of content and learning/teaching approaches dependent on achieving learning outcomes. However, the plan also has a number of radical aims. The learning/teaching approaches listed in the guidelines section of the plan number twenty-four and are clearly provided as an exhortation to teachers to move away from the traditional chalk-and-talk approach to more learner-centred methods. The assessment procedures section (listing eleven approaches) specifies appropriateness to learning outcomes and selected learning approaches, and requires a statement of 'what are considered to be satisfactory performances for each learning outcome', and by *satisfactory* is meant not *how well/badly* but whether the learner has *passed or failed* in each of the outcomes. The satisfactory completion of individual modules or programmes of modules will be recorded on a transcript, a National Certificate. What we have here is the nearest British equivalent of the US credit accumulation system, offered at national rather than institutional level and with built-in credit transfer.

DEVELOPMENT AND CONSTRUCTION

The Action Plan may have been conceived and imposed from within the SED, but there has been considerable involvement of other groups/individuals in its construction. Three task groups have been set up (on curriculum assessment/certification, teacher education and guidance), and four development teams (inter-disciplinary studies, business and administration, technology, and science). Development Officers have been seconded from the service: 20 in April-June 1983 to analyse previous curriculum, 60 in August-December 1983 to construct the first 400 modules, and 60 in January-June 1984 to construct further modules and assist with in-service training of lecturers and teachers. Short-life working groups have also been convened to construct modules, draft performance criteria, supply examples of teaching materials: these have worked from August 1983 to June 1984. (Ritchie, 1984)

As has been suggested earlier (q.v. Chapter 3), to some extent the Action Plan pre-empts argument about coherence by asserting that integration will take place. **The guidelines document** (SED, 1984f) suggests five methods of fostering integration: through integrative modules, team teaching, modular programmes or packages, work experience, and the adaptation of 'multiple-purpose' modules to different ends. However, assertion is neither proof nor prediction, and a confident approach is not fully maintained throughout SED literature. For example, the consultative paper on **A single examining body?** (1984d, but q.v. below) notes that,

Two year courses, specially geared to the needs of the fourteen to sixteen age group, and supplemented by a limited number of short courses, may well provide a more coherent experience than a fully modular system on post-sixteen lines.

Many of the examples used of integrated modules centre on work experience, where a number of skills developed on separate modules are assimilated in a practical outcome, e.g. in hairdressing the utilisation of cutting, shampooing, setting and combing as part of the process of perming; or simulated office work, where the student may be expected to draw together skills and knowledge acquired in modules on reception, typewriting, audio typing, word processing, shorthand.

There have been other problem areas of which the Action Plan developers have been aware. A central aim of the plan is 'to rationalise provision, partly in the interests of cost-effectiveness, partly to avoid confusing duplication and replication of provision' (Mack, 1984). In practice, this has meant trying to co-ordinate duplicate provision between colleges and between schools/colleges, with students able to assemble their modules from the offerings of a number of institutions. In May 1984 SED held a timetabling conference in Glasgow College of Technology, resulting in the publication of a timetabling strategies booklet (SED, 1984c). There have been problems of training staff in guidance, since the Action Plan will eventually provide a potential maze for students to wander within, and counselling will become increasingly important. There have also been guidelines manuals on particular subjects (e.g. business administration, science, technology, interdisciplinary studies), and on assessment. The latter area has required teachers to concentrate on a whole range of assessment topics since they are now centrally involved in appraising their students: the change from norm- to criterion-reference techniques; the role of the external assessor; formative and summative assessment; cutting scores; standard setting procedures. Indeed it is in the area of assessment, particularly American in its approach, that the plan is perhaps most novel in a British context, since it opens up the individual institution in a way which public examinations, marked and then hidden away, never quite achieve.

What has characterised the whole production of the Action Plan has been a sense of frenzied haste, at least in educational terms. If one recalls that the production of a CNA course can take several years from conception to validation, and then involve another year before 40 or 50 students arrive, the time span of the Action Plan seems all the more remarkable: publication of the plan in January 1983 and a start in August 1984, with many thousands of people involved. The feeling of haste was much commented upon:

The speed . . . with which the action plan has moved from inception to implementation has left gaps in communication, and incurred the penalty of lateness in revision and final distribution of information such as the guidelines on moderation and assessment, programmes of 'equivalences' and some module descriptors . . . Why has such apparent haste in the development process been necessary? (Dougall & Halliday, 1985)

. . . wouldn't it be regrettable if it were marred by the management decision to implement it at a stroke! Would some delay not perhaps be in the best interests of staff and students? (JFHES, 1984)

One can only speculate on the motives behind such a sense of urgency, since the SED has made no pronouncements, but a likely explanation must lie in **Training for jobs** (1984) and the MSC's impending takeover of a quarter of English/Welsh NAFE. Scotland has hurried and remained educationally in control of its own provision.

The sense of a house being built around the new occupants has remained a part of the Action Plan's first phase. Despite the obvious SED activity and commitment, not everything in education can be moved quickly, even with pushing.

PROBLEMS IN IMPLEMENTATION

The kinds of difficulties which are still in search of resolution in the Action Plan are, however, what we might describe as matters of detail. The conceptualisation, and the plan as a totality, remain quintessentially rational, indeed disturbingly rational for an education system which has a notorious distrust of consistency and conformity and which champions idiosyncrasy as a demonstration of independent creativity. One can hardly imagine so bold an enterprise ever succeeding in England. In Scotland the plan has had a number of general features which might be said to have facilitated rapid and instantaneous implementation. The education system has traditionally been more centrally organised, partly a function of temperament/history, but also of size: Scotland has a population of approximately five million. The historical commitment to general education has left the coherence issue less exposed. The plan is centred on

that part of education which is not concerned with traditional academic advancement and whose supporters are perhaps less effectively organised than in academe. All of this has helped.

However, one can hardly expect as wide-ranging an innovation as the plan represents to enter the system without resistance from gatekeepers, and there have indeed been problems during the first year. We may note the following:

- 1 **Privatisation.** It is fairly clear that part of the attraction of the Action Plan for the MSC is its flexibility. Modules can be easily updated without having to contend with the entire scheme. Modules can be grouped together to meet the interests of local employers. The employers themselves can suggest new modules if they feel that the existing 1200 do not encompass their required outcomes. Where colleges fail to provide requisite modules or make them available at an attractive price) employers can mount their own modules. The Action Plan's small units mean that private sector trainers can assemble training programmes incrementally. On a conceptual level, the plan opens the doors to private/public sector competition. The teacher associations seized upon this potentiality almost immediately:

There might be a fear, also, that modularization is the key to the privatization of education, in which clusters of modules tailored to local commercial demand and taught relatively easily will be offered, apparently more cheaply, by private agencies, thus pricing FE lecturers out of work. (Dougill and Halliday, 1984)

The conflict has not been finally resolved. Instead, FE members of the Educational Institute of Scotland (EIS) have agreed to call off industrial action in return for a two-year moratorium on privatisation of the Action Plan (TESS, 1984).¹⁹ Opponents remain:

The executive's compromise is an insufficient guarantee that will not stop privatisation. Some cynics, of whom I am one, believe that the supporters of privatisation need the two years' postponement to get themselves organised because the action plan modules are in a mess in the colleges at the moment. (Quoted in Munro, 1984b)

- 2 **Consortia.** The extent to which student choice exists among the modules has in the event proved to be an issue subordinated to the question of choice among institutions. If the Action Plan is to achieve its aim of avoiding duplication and proving cost effective, then local

19 In February 1986 (Munro, 1986) SCOTVEC appeared to be making a test case for allowing National Certificate modules to be offered by two private centres, with EIS claiming that its consent was required and SCOTVEC insisting that it was obliged only to notify.

schools and colleges will need to rationalise their modular provision. Some modules might be taught several times in several institutions if demand warrants, but more specialised offerings may be available in only one establishment for students from several schools/colleges. Hence consortia: organising local provision across a number of institutions. Hence, too, a range of politically contentious dilemmas: who gets which modules? who gets higher level modules? if a subject market declines, which institution loses the subject in favour of efficiency? does one direct students to particular institutions, or does one allow market forces to prevail? The TESS (Munro 1984a) indicated the scale of the operation:

Strathclyde's Renfrew division, which the region regards as its most complete example of area consorting, has 214 pupils travelling between schools and 1,100 travelling from schools to three FE colleges out of an S5-S6 population of 5,500. Another 116 classes have been centralized and a handful of subjects removed from the diet of some of the division's thirty-three secondary schools. Some 37 modules are being served up in 22 schools.

Despite the advantages of consortia to teachers and students outlined in later parts of the article, teacher associations remain unconvinced:

In Lanarkshire, where lengthy battles took place over consortia last year, the EIS's 4,500 members are pledged to resist consortia from August by refusing to teach pupils from other schools except where voluntary agreements exist, and to take selective strike action where necessary. (TESS, 1985b)

- 3 **Pay demands.** Whatever the advantages of introducing the Action Plan in August 1984, one disadvantage of the timing was that it coincided with Scottish teachers' attempts to force a pay review. The professional association view is that teachers' salaries have fallen behind the cost of living index, and the Action Plan is seen as one of a number of recent Scottish innovations which require teachers to work harder for less money in real terms. Although this situation cannot be attributed to the Action Plan, it nevertheless means that the plan has had to begin its life in a period when Scottish education is unsettled with strikes and when working-to-rule is an increasingly common feature of the scene.

What is perhaps most interesting about the above problems, at least from the point of view of modularisation, is that it is not the Action Plan *per se* which has been the focus of disagreement, but its implications for continued employment and remuneration. Ten years ago so dramatic an innovation would have aroused anxiety on other fronts as well.

THE FUTURE OF THE ACTION PLAN

It is possible that vocational education/training is an area where change is countenanced more easily than elsewhere in the education service, or perhaps where resistance is less well organised. Despite this, were the Action Plan to remain as a vocational alternative to other forms of education, it would doubtless establish itself as a major innovation. However, one cannot introduce a new curriculum/assessment structure which sits astride the school/college divide without eventually affecting other activities within each sphere. It is possible that this is intended.

In September 1984, a month after the start of the Action Plan, the SED produced another consultative paper, **A single examining body?** (1984d), which raised the issue of merging the not yet formed SCOTVEC with the Scottish Examination Board (SEB). SEB's main activity is the conduct of examinations for the Scottish Certificate of Education, at two levels at present, Ordinary Grade and Higher Grade, and the Certificate of Sixth Year Studies. However, as from 1986 new examinations will replace the Ordinary Grade with the SCE Standard Grade, part of 'major reform of education for fourteen-sixteen year olds in which the Board is co-operating with the Scottish Education Department (SED) and the Consultative Committee on the Curriculum (CCC)' (SED, 1984d).

The suggested merger of SCOTVEC and SEB seems to have aroused strong, but conflicting passions: SCOBEC announced that it was against the merger and SCOTEC that it supported the proposal (Pickard, 1985). The CBI in Scotland urged the Government to allow the as yet unformed SCOTVEC 'to get off the ground before the creation of a single examining body for school and further education' (TESS, 1985a), expressing concern over 'academic bias' on the SEB. The CCC also launched 'a bid to extend its remit to further education colleges in the wake of Action Plan modules being offered in both schools and colleges' (TESS, 1984). The battle continues.

Inevitably the Action Plan will impinge on all tangential areas. Already its name has been changed from 16-18 to 16+, since a modular system allows not only initial training but updating, for which reason those over the age of 18 ought also to be included. At the same time, education for those aged 14-16 cannot easily be left out on a limb. Bringing in SEB and Scottish Highers will mean modularising traditional academic education as well, and if at higher levels, why not below?

Rationally, an integrated, coordinated single system at school and college levels for those aged 14 and over makes impeccable sense. Politically it is difficult to bring off, since diversity and inconsistency is traditionally the British means of buying off opposition. The key battle is likely to centre over Scottish Highers. Even if the teaching/learning leading up to public examinations is modularised, the examinations themselves are synoptic and norm referenced, in that they are intended to

act as a filter, not to record competence. Public examinations are external, and the Action Plan is very much institution-centred. The difficulties are obvious.

In spite of such problems, if the Action Plan is to achieve a status other than as an alternative for those who are not academically able enough to do the SEB's examinations, it will need to incorporate higher status activities as well. Only thus can it hope to resist the pressures which seek to label such innovations second-rate.

SUMMARY

It would be artificial to attempt to suggest fundamental similarities among the five case studies, since each exhibits significant differences in terms of scale, purpose and age. Instead, it may be more useful to emphasise the following distinctions:

- 1 At the University of London modularisation was introduced in the early 1960s and was taken up by individual groups within the institution as a means of fostering school autonomy. Few of the broad, educational aims offered as justification for the innovation have, at the present date, been realised to any significant extent. Modularisation has remained the forum in which the centre/periphery debate has continued. In the 1970s the university was able to respond to central government initiatives by using its modular structure for implementing a wide range of general degrees in the constituent colleges of the Institute of Education, but these qualifications were established as of lower status than the university's own awards, and validation was withdrawn when the first signs of impending market contraction appeared.
- 2 In the three polytechnics (City, Oxford, Hatfield), modularisation was developed (or initially permitted to develop) primarily as a basis for introducing general degrees: either because it was becoming difficult to recruit for specialist courses (City) in a large number of areas, or because general degrees offered an opportunity to raise the institution's academic profile (Oxford) or to extend its recruitment base (Hatfield). Attempts to move the courses towards some measure of specialist study recognition have eventually met with some success at City and Oxford. At Hatfield, recruitment to the combined studies degree has up to the present been constrained by a growth in market demand for specialist degrees.
- 3 The Scottish Action Plan is a large scale attempt to integrate the whole of national post-compulsory vocational education into a common scheme. Only in its second year of implementation, the plan

has run up against the opposition of vested interest groups, so that its ultimate achievement is at present unknown. The plan's advocates clearly intend that it should eventually encompass the whole of 14 + school/further education.

With the exception of the London scheme at the university (but not in its institute network), all of the cases reveal an identification of modularisation with breadth rather than specialist education, and, hence, in cultural provision in which specialisation is more highly regarded, with lower rather than higher status awards.

Marketing in further and higher education

The sequence of case studies in the previous chapter — from university to public sector FHE — charts a number of different kinds of progression: chronological development; a descent from higher (university) to lower (FE) professional status levels; a shift in central government focus; and a movement from *up market* to *down market* activities. All of these progressions reflect interlinked developments over the past quarter century in post-compulsory education.

At least up to the 1973/74 energy crisis, the 1960s and 1970s were educationally centred on the need to extend access to higher education and on adherence to the Robbins principle: comprehensivising secondary education to increase opportunities for achieving HE entry qualifications; establishing new universities; creating the binary system; transforming colleges of education into colleges and institutes of HE. After many years of protection, in the 1980s HE has come under fire: UGC cuts to universities and a general lowering of resourcing levels; the NAB exercise with its goal of rationalising (i.e. reducing) public sector HE; and a general questioning of the real value of HE in terms of employment prospects. In the mid 1980s the spotlight has shifted to FE and in particular that proportion (a majority) of the population for whom HE (and even any form of post-compulsory education) has never been a genuine possibility in the UK. This shift has been prompted, of course, by a wide variety of environmental pressures. There has been a population bulge moving out of the school system into employment/unemployment and a general recession. There has been a growing government preoccupation (via the MSC) with training and efforts to extend central influence over non-advanced FE through the increasing assistance of the private, rather than the public, sector. And there have been insistent demands that both education and training, in line with central government philosophy, should address themselves to the business of marketing.

We have already noted the NEDC/MSCs (1984) stricture that

Colleges should go to their potential customers with the offer of providing for their needs and wishes at times and in ways which suit the individual. They should 'market' rather than 'sell' and make customers welcome on their own terms rather than pressing them into college convenience.

The above document is particularly unhelpful in making clear what the precise difference is between *marketing* and *selling*, although the general assumption seems to be that the former involves customisation, while the latter necessitates promoting the existing product range. Nevertheless, selling is a part of marketing, and in the market place selling includes providing for customers' needs and wishes, but also stimulating demand where there is none. It is difficult to imagine that chewing gum and hula hoops emerged in response to articulated client needs. Marketeers seek not only to read, but also to manipulate, the market. There is clearly some degree of confusion, or at least imprecision, in the MSC's exhortation, and it will be perhaps useful to examine the emerging relationship between education/training and marketing as a context for drawing some conclusions about the role of modularisation in UK colleges and universities.

THE COLLEGE AND THE MARKET

In a paper attempting to apply Canadian marketing perspectives to an understanding of UK college activity, Curtis (1984) suggests that

Marketing aims to study the exchanges which take place where value is offered for consideration. The value offered may be a good or service, or simply a promise of future performance; while the consideration may be anything from cash or other goods, to votes, registration in a course, or approval of a programme.

Curtis's argument is that

Education, when it markets at all, markets an intangible product. On the evidence, this is not well understood by college educators. Colleges tend to market courses, certificates, diplomas or degrees, when they should be marketing intangibles like achievement, fellowship, success or status.

Inevitably, the analysis underscores some of the differences in attitude underlying North American and UK post-compulsory education: in Britain, educational establishments are very much in the business of marketing (and selling) courses, certificates, diplomas or degrees. Indeed, the process of constructing these products leaves the institution scope for doing little else, since the designation of aims and objectives, content and structure, teaching methods and assessment is completed *before the potential student has been sighted, never mind recruited*. One may recall (c.f. Chapter 5) CNAA anxieties over Hatfield's common modular policy, the council's unease in accepting a structure with nothing in it. In the British context structure is seen as arising from the nature of the content, the aims and objectives, whereas in the North American context, the overall aims and objectives, and the content through which they are achieved, are left to be fitted into a general structure. In marketing terms

it is the difference between selling an already upholstered three-piece suite and a suite which can be covered to the customer's specification, with fabric and trimmings to be chosen. In the former instance, the product is in search of a customer, in the latter a degree of customisation (literally in HE) is possible. The difference is between *provider-centred* and *client (customer)-centred* services.

Of course not all British educational/training provision is quite so provider-centred. Adult education and full-cost short courses are traditionally much more client-centred, but they frequently involve offerings which do not lead to certificates, diplomas or degrees, and, as we shall see below, it is certification which is often the most inhibiting aspect of post-compulsory British education.

Nevertheless, the movement over the last decade in FE (Leech, 1982) has been towards 'a growth in the number of full time students in FE colleges and a decline in the numbers studying part time day or evening', and full time students are frequently to be found on courses leading to certificates, diplomas or degrees. In many instances the courses have been designed outside the institution, or externally validated, so that content, structure and assessment cannot be easily modified. In the circumstances, the emphasis shifts to selling, or, in FE patois, finding *horses for courses*.

In turn, that constraint is part of a larger pattern of restrictions. A true marketing approach would involve market research (to determine client needs/wants), product development, promotion and selling, quality control and monitoring, product modification: very much of a systems perspective. In British post-compulsory education there is virtually no real institutional market research. Both the resourcing levels and constraints on virement provide obstacles to researching the market. Product development outside universities is zealously controlled by external agencies. The teaching profession remains hostile to any kind of quality control, so that teacher appraisal is seldom carried out either formally or rigorously, and examination results are viewed with suspicion as indicators of the quality of the teaching/learning experience. It is hardly surprising that marketing should so frequently be viewed in terms of flogging the existing stock just a little bit harder. Indeed, over the past decade course promotion has become a burgeoning activity area in both further and higher education: improved prospectuses; the development of a corporate image, complete with logo; advertising in the market place, or taking instruction to housing estates; making university lecturers available to sixth-form groups for specimen lectures; open days and exhibitions; employing design consultants. Selling has become a major educational activity.

THE COLLEGE AND ITS (MANY) CLIENTS

When compared with education, industry and commerce can be said to

have relatively simple and straightforward relationships with their clients/customers. Potential users go in search of (or are sought for) goods and services. An exchange occurs. Most purchases involve either personal consumption or consumption by (a) known other(s).

In any industrial categorisation scheme, education fits more comfortably among service, rather than manufacturing, industries. In service industries, such as catering or hairdressing, what matters most is client satisfaction, what in curriculum terminology we would call *norm referenced* rather than *criterion referenced* achievements. Successful restaurateurs and hairdressers generally identify their clientele and seek to satisfy the clients' expectations: excellence in eating and grooming are very much a function of consumer/observer attitudes, which in turn are related to social groups/market segments. In service industries the overriding aim is to please the clients, not to prove anything about the nature of food or beauty, or even to 'do good' to others. After all, servants are traditionally expected to take orders from their masters/mistresses. In education that is hardly the case.

In the first place one needs to distinguish among the clients of any educational institution.¹ There are:

- 1 **primary clients**, or students, those who receive education/training in the establishment;
- 2 **secondary clients**, those who perceive themselves as acting as agents for primary clients, whose education/training activities secondary clients **either**
 - (a) **resource**, e.g. government, MSC, local authorities, UGC, parents, employers and sometimes students themselves, **and/or**
 - (b) **legitimise**, e.g. validating/examining boards/agencies, professional bodies, industry training boards, employers, HMI/local inspectors, **and/or**
 - (c) **utilise**, e.g. employers, other educational/training institutions, but also ex-students seeking to sell their skills in the marketplace, and even lecturers seeking to change society by altering student attitudes/outlooks/values.

Ostensibly primary clients ought to have the central say since they alone experience education directly and have to live with the results for the remainder of their lives. There may in post-compulsory education be a two-year period where primary clients are not legally adult, but the expectation is that students should (and will) exercise considerable control

1 I have previously advanced this conceptualisation, as well as the distinction between felt and perceived needs in *In search of the responsive college* (Theodossin, 1986).

over how they lead their lives outside the classroom. In Britain, however, it has tended to be secondary clients who have exercised the major influence over education/training.

In the first place, the majority of British educational primary clients are not consumers in any direct sense of that word, since the cost of education/training tends to be borne by the state in the main. Of course most national systems involve some state subsidy for education, but the extent varies from country to country, and the difference between Britain and the US is sharply delineated in the NEDC/MSU's **Competence and competition** (1984) document. In the US, it suggests,

Post-secondary students are expected to pay for vocational education and training unless it is provided free by an employer. The proportion of institutional costs covered by tuition fees varies between the public and private sector. There is extensive provision for loans, grants scholarships and part time work.

Such provision is by no means common in Britain. Attempts by the Thatcher government to shift a greater share of HE student costs onto parents and to promote the introduction of student loans have thus far been conspicuously unsuccessful. The above MSU document underscores the difference: in Britain

Total public expenditure on education ... in ... 1981/82 ... was almost £14 billion, or 5.4 per cent of GNP. The private cost cannot be estimated but (unlike Japan and the US) is only a small proportion.

The old adage about the piper calling the tune must be part of the explanation for the limited extent to which British students are able to control/influence their own education and training. US equivalents of modular courses are built on the assumption that the student is a shopper who will want to make his own purchases to serve his own ends. As on most menus, there are likely to be constraints, but the client will be expected to be prominently involved in constructing his own educational meal. As has been noted previously, credit transfer enhances the student's bargaining position in the market.

Secondly, British students, as primary clients, are only infrequently involved in surveys of client satisfaction. Another striking difference between the US and British student experience is the absence within British institutions of formal, organised, regular, anonymous student feedback on the teaching/learning experience. Student questionnaires are used extensively in North America. In Britain they are uncommon and then generally confined to short (often self-financing) courses.² It is, in fact, nearly twenty years since the use of such questionnaires in Britain

2 Nor, when they are employed, do they appear to figure formally and openly (as in many North American institutions) in the identification of organisational development needs or in personal career advancement.

was first widely advocated in the midst of the late sixties student unrest, but the response has continued to remain primarily negative. The usual arguments are that such procedures would be threatening to teachers and that students lack the knowledge/understanding/maturity to make judgements about their teaching/learning experiences. The absence of both student feedback and peer-group appraisal of teachers makes it extremely difficult to sustain, even at the level of intention, any kind of marketing perspective in education. In no form of industry, service or manufacturing, can a marketing approach survive for long without some kind of monitoring or quality control.

However, it would be quite wrong to suggest that teachers live in a world where they are above reproach. Rather one would have to say that most criticism of teacher performance derives from secondary clients, those who resource, legitimise or utilise the education/training activities experienced by primary clients. Moreover, the relative impotence of primary clients is more than balanced at the other extreme by the relative power of secondary clients. What is characteristic of secondary clients in education is that they:

- 1 generally claim to be acting in the interests of primary clients;
- 2 can most easily influence future learning/training, i.e. any changes they advocate are most likely to affect those primary clients who have not yet emerged or been identified;
- 3 seldom appear to have a reliable data base to substantiate their assertions;
- 4 are frequently in disagreement among themselves: central and local government; MSC and DES; employers and validating agencies; etc.

Thus teachers (who can also act as secondary clients through their professional associations) are often the recipients of criticism and advice within public debates about education/training. On an almost weekly basis, the media will transmit the judgement of at least one secondary client group which is convinced that the educational system has failed the nation.

Looked at in another light, what characterises the British educational scene, with the dominance of secondary over primary clients, is its intrinsic paternalism; secondary clients are always in the process of doing (or seeking to do) good to primary clients, although with very little direct reference to primary clients. The current efforts of MSC to gain direct financial control of NAFE, the gatekeeping function of CNA, the Scottish Action Plan, and the emergence of modular degree courses in our previous four institutional case studies: all began life with assertions of altruism; all were effected by secondary clients acting as agents for primary clients. At times the paternalistic debates carried out among

secondary agents take on something of the quality of a family quarrel among marriage partners asserting conflicting visions of the children's futures. At such moments the offspring can appear remarkably peripheral.

At the heart of the debate among secondary clients, and central to the notion of paternalism, is the distinction between two kinds of needs, or what the MSC document distinguishes as 'needs and wishes'. We may note the existence of:

- 1 **felt needs**, in the sense of desired acquisitions of knowledge/skills identified by both primary clients and secondary clients and directed at the college system in terms of demands/wants/wishes, i.e. education/training which is actively sought, **and**
- 2 **perceived needs** in the sense of deficiencies detected by agents/secondary clients in current/potential primary clients.

Listing the perceived needs of others is, of course, a traditional social activity. Nor is it only extra-system secondary clients who indulge in this pastime. Teachers acting as secondary clients are just as likely to be concerned with effecting in primary clients changed attitudes, raised consciousness, altered values. Missionaries are frequently paternalistic, and teaching has long been historically identified with the conversion process. Missionaries can seldom have sought formal client feedback, which may help to explain the persistent survival of the one-way appraisal system (teachers of students) in Britain.

Indeed the relative lack of involvement of primary clients in their own education is so taken for granted that it has been seldom remarked upon in Britain. However, it is further demonstrated by another feature of the British scene, the absence of what one might describe as *after sales service*. The student, having left the scene of his course, becomes a statistic or a computer/file entry, but normally ceases to have any direct contact with the institution, as the institution absolves itself of any responsibility for the ex-student's continuing welfare. **Competence and competition** again makes a striking contrast with the US scene, where

The output of vocational programmes in two-year colleges is generally directed towards employment . . . Students are assisted in finding jobs by Job Placement Offices which list openings, arrange interviews with visiting employers and help with job search, résumé writing and interview preparation. Separate college counselling services offer opportunities for self-assessment and career/life planning.

Of course, the US approach to education/training is not one which many British educationists have either valued or sought to emulate. Many have regarded it with undisguised contempt and held up their own system as in every way superior and preferable. Nor have the distinctive features of US provision been totally absent from the British scene, and if they have (as

in the case of graduate employment counselling) been somewhat less in evidence, it has at least in part been occasioned by the absence of necessary resources. However, the point is not that one approach is better, or that the MSC is right/wrong in holding up US practice as a worthy model, or that such practice is necessarily appropriate across the whole range of post-compulsory education/training: rather it is that US practice is all of a piece, a system whose defining characteristics relate to an underlying commitment to marketing. Conversely, the British system, having evolved outside the marketplace,³ is not easily shifted towards a marketing approach. To effect such a transformation would undoubtedly require major changes: reorganising the ways in which education/training is funded/paid for; altering the status of primary clients in the direction of more autonomy/control; diminishing the influence of secondary clients by making them more subservient to the interests of primary clients; and agreeing that support of some secondary clients (especially employers) may be more advantageous to primary clients. What is required is a power shift, and there is thus far little evidence of any such movement. There is also the possibility that when and if it does occur, it is more likely to affect lower, rather than higher, status activities: training rather than education; non-advanced rather than advanced; public sector rather than universities. There is also a powerful strand in British education which regards marketing and markets with persistent disapproval. For such individuals/groups, selling may be the only acceptable feature of the marketing perspective, with the unspoken conviction that real quality goods and services never have to tout for trade.

EXTENDING THE MARKET

Over the past 15 years there has been so much rhetoric expended on the desirability of increased education for all, that it is sometimes difficult to recall the sixties debate about whether the Robbins principle was valid, and the resulting disagreement about whether 'more means worse'. Since then the arguments have been overtaken by the effects of a reduced birth rate working themselves through the system. If, for example, higher education is really appropriate for a limited proportion of any age group, then a smaller group means a reduced entry, which in turn suggests institutional closures. Faced with this dilemma, the educational fraternity has concerned itself less and less in arguing for restricted entry and more and more for the advantages of extending entry to what we have termed new market segments.

The educational position has been supported by the central government commitment to education/training as a storage device, which in effect involves more education for a larger proportion of the age group, and

3 Historically, of course, through the church.

correspondingly less time in employment. Of course the intention is put somewhat less baldly. **Competence and competition**, from which we have quoted so frequently above, takes as its main argument the fact that in general Britain's major trading competitors (Germany, the US and Japan) have populations which have been educated for longer periods and are better qualified. In 1981, among those aged 16 to 24, 45 per cent were participating in education in Germany, 73 per cent in the US, 54 per cent in Japan, but 32-40 per cent in the UK. In 1979, 20 per cent of the relevant age group gained higher education (both below and at degree standards) in Germany, 32 per cent in the US, 37 per cent in Japan, but only 18 per cent in the UK. In 1980, in Germany eight per cent of the labour force was qualified to first degree level, 19 per cent in the US, 13 per cent in Japan, but only seven per cent in the UK. Based on statistical evidence gathered variously from 1980 to 1982, 66 per cent of the German labour force comprised workers with a recognised qualification, 78 per cent of the US, 60 per cent of the Japanese, but only 50 per cent of the British. These statistics have been left to tell their own story, i.e. to lead to the conclusion that economic prosperity is directly related to the educational level of the workforce.

There is thus general agreement among both educationists and the Government (speaking through the MSC perhaps more frequently than through the DES) that more post-compulsory education/training for a larger proportion of the population is desirable. Where there is disagreement is about where the thrust should arise: who is to receive the education and what kind of education is to be promoted? At this point the two groups part company, so that we need to examine in some detail the kinds of argument and solutions each has tended to promote.

MARKET EXTENSION AND PRODUCT REPACKAGING

The kind of distinction I attempted to draw above between manufacturing and service industries, with the suggestion that education perhaps fitted more easily into the latter, is difficult to sustain in any kind of absolute terms. The truth is that education, at least in Britain, performs as a curious mixture of the two kinds of industry. Under its manufacturing hat, education offers, to use Curtis's phrase, 'courses, certificates, diplomas or degrees' most of the time, with a resultant emphasis on selling. With its service hat firmly in place, education tends to promote its 'courses, certificates, diplomas or degrees' as a form of *personal, social and economic good*, a **missionary role**, although the *economic good* has been increasingly difficult to sustain amid mounting unemployment. Nevertheless, as the declining size in traditional client groups has moved nearer and nearer, the educational response has been to attempt to make the traditional products available to new market segments, in particular the

socially disadvantaged, to find new buyers for old goods. We may observe the following:

- 1 **Access.** There has been a growing interest in easing access and making course entry more easily available to hitherto excluded groups. One suspects that this is a central explanation behind the support for credit transfer and non-standard entry. The Leverhulme Programme devoted an entire volume to access (Fulton, 1981), described as 'unashamedly expansionist'. A number of FEU publications (**Basic skills**, **Progressing from vocational preparation**, both 1982, Dean's **Moving up**, 1985) have concerned themselves partly or wholly with progression from vocational qualifications to higher level work and the kinds of assumptions/prejudices/constraints which hinder such movement. We have already noted in the case study section the use of access courses to enable older students to enter existing degree courses. The FEU's **Flexible learning opportunities** (1983) gives the responses of 'all examining and validating bodies' to questions about the necessity of prescribing pre-entry conditions to schemes/examinations and the amount of discretion allowed to local institutions/centres.
- 2 **New market segments.** To a considerable extent the groups noted in 1 above represent new market segments, attempts to draw in clients who have traditionally been excluded from existing programmes of study. However, attempts have also been made to reach more clearly defined segments. Stoney and Reid (1981) deal with the problems of women in science and technology courses. Dee (1984) explores the implementation of teaching programmes for students with moderate learning difficulties and the kinds of new approaches/materials required, and Roberts *et al* (1982) examine the function of assessment for the same groups of students. PICKUP, an acronym for Professional Industrial and Commercial Updating, is a DES-funded project centred on the needs of business for post-experience education and training. All of these groups have to some extent been previously involved in FHE, but their identification as individual segments at which the service ought appropriately to direct its attention is intended to extend recruitment/involvement.
- 3 **New learning approaches.** Apart from providing access to new market segments, open learning is also a new approach to learning intended to 'enable individuals to take part in programmes of study of their choice no matter where they live or whatever their circumstances' (quoted from CET in **Inside open learning**, Bagley & Challis, 1985). In some instances, of course, open learning clearly represents a repackaging of traditional material rather than a

distinctive departure on all levels. The FEU's **Active learning — a guide** (1979b) looks at experiential learning, listing a dozen different approaches (e.g. project, survey, community placement, work experience or work preparation, etc.). **Planned experience** (FEU, 1984b) offers a detailed survey and synthesis of criteria for work experience. **Curriculum styles and strategies** (Heathcote *et al.* 1982) reviews a whole range of approaches to goal and objective setting, the organisation of curriculum content, instructional procedures, evaluation and assessment, among which student centredness repeatedly appears.

- 4 **A counselling service.** Once the student is actually enrolled on the course, some kind of counselling may be necessary to help him over various crises. Miller (1982) discusses guidance and the counselling role of the tutor in vocational preparation. Miller *et al.* (1983) suggest strategies for evolving a more integrated structure of guidance provision for young people.
- 5 **Negotiating the curriculum.** There has been no shortage of advocates for increased customisation through the development of student/teacher curriculum negotiation. Simmons (1975) has explored the issues for HE, Weston (1980) for schools, and Brace (1984) has attempted an analysis of the requisite organisational modifications in FE. **Flexible learning opportunities** (FEU 1983) starts with a definition of flexibility as 'about optimising the autonomy of the learner' and suggests ways of increasing flexibility within the existing system.
- 6 **Comparison.** Traditional forms of assessment are intended to promote relative hierarchical placement: X is better than Y but less good than Z. Such grading is meant to be restrictive and to allow/bar access to higher levels of education/training. Profiling is an obvious attempt to make comparison more difficult and to concentrate attention on the individual (**Profiles**, FEU 1982b) in a less judgemental fashion than formal examinations allow. A recent FEU publication (**Profiles in action**, 1984c), records a

... conflict among the motives of the advocates of profiles. At one extreme ... profiles provide a viable alternative to the powerful 'anti-educational' constraint of public examinations. At the other is the Associated Examining Board's new A-level Geography examination which provides a profile by means of a separate grade for each of four papers, to yield more information from existing examinations ...

All of the above approaches/strategies are designed to promote entry to education for previously excluded segments, to make the experience more agreeable and valuable, and/or to make exit less potentially painful. The

extent to which they are genuinely new is variable. However inadequately provided in the past, counselling and experiential learning are not recent discoveries. Profiling may mark a radical departure, but, as with the Scottish Action Plan, its eventual fate is dependent on the extent to which it can be accommodated by the needs of formal examinations. In **Flexible learning in action**, Birch and Latcham (1984) provide three case studies and rehearse the barriers to student-centredness: the demands of validating bodies, existing conditions of service agreements, and lack of resources. Of their cases, the most remarkable is that of Portsmouth College of Art, Design and FE, where

The project aims to set up learning situations in response to demand and not in accordance with presumed need. It has a particular concern for the unemployed. The identification of demand is assured by close liaison with all the agencies working with and within the community and by a careful monitoring of opinion. So far the project has attracted funds from grant-making charities, business interests and city and county councils. Thus classes are not a function of minimum enrolments nor are student fees a barrier to participation.

However, such instances are written up in part because they are exceptional. In general the British system is not and, apart from a few zealous individuals, has not sought to be student-centred. The extent to which the Action Plan can alter that situation has yet to be demonstrated.

PRODUCT REDESIGN AND NEW LINES

What the Action Plan represents, and what has been conspicuously absent from English/Welsh education, is a return to the drawing board and an attempt to redesign the product from scratch in order to adapt to a changing market. The English approach is to begin with an assumption that the existing products are totally satisfactory for at least a part of the market. What is therefore required is not a new product range, but the addition of 'new lines', invariably down-market products. It is an essentially additive approach, exemplified, for example, by CSE, the binary system, or the DipHE. A new market stall is set up, an advertising campaign is launched, sales staff are recruited, and the business is launched. What is almost always on sale is a lower-priced version of some luxury item, the standard version of the car without the trimmings, its austerity partly a function of pricing but also likely to make the top model look especially desirable by comparison.⁴

4 In a slightly different way, one may also see the possibility of a National Council for Vocational Qualifications (currently being debated) to provide accreditation for existing certifying bodies as the essentially additive approach to education/training problem solving in England and Wales. The contrast with the Scottish Action Plan is striking.

In English education, value and pricing are a function of specialisation. General education has little market value. The system has been designed to promote the shedding of knowledge, and the concentration on less and less, from the age of 13-14 upwards. 'O' levels, 'A' levels and degrees are essentially passports to reductivism. The general assumption is that specialism is a sign of ability: really able learners will devote themselves with increasing exclusivity to limited specialisms. In such a system, in order to extend the market, one is inevitably forced to promote general education, which is by definition a down-market product of dubious value and doubtful status.

Disapprobation towards general education is buried deep within the English educational consciousness. Nearly a quarter century of attempts to broaden the scope of 'A' levels have not yet produced significant tangible results.⁵ We have observed the way in which the University of London approached the validation of general degrees in its institute-led constituent colleges, by downgrading the status of the awards, by blocking transferability into its own courses. Moreover, where general education takes root, the result is almost always instability: both City and Oxford Polytechnics have striven over the years to open up pathways to specialisation for their modular students. The underlying attitude is expressed in Hatfield's description of its Combined Studies degree in terms of its contiguity with specialist degrees. Those who can specialise. Those who cannot become generalists.⁶

At another level, coherence, the banner under which modularity has so often been attacked, is a synonym for specialisation. T S Eliot (1952) may have reminded us of the essentially synthesising nature of poetry by arguing that

... the ordinary man's experience is chaotic, irregular, fragmentary. The latter falls in love, or reads Spinoza, and these two experiences have nothing to do with each other, or with the noise of the typewriter or the smell of cooking; in the mind of the poet these experiences are always forming new wholes.

but the average student is by definition the 'ordinary man': for him synthesis is easier and better assured by restricting the range of his experience. General education tends ever towards the 'chaotic, irregular, fragmentary'. How, Lane (1975) asks, is the student to make 'the intellectual connections' between the parts of his course if he studies oceanography, Spanish and social psychology? What form is that integration to

5 One familiar argument against has suggested that a broad foundation delays specialisation and hence increases its cost, implying again that specialisation remains the most desirable end.

6 The 1985 White Paper (*The Development of Higher Education into the 1990s*) suggests that 'provided they are sufficiently rigorous, broader degree courses have a significant part in higher education,' but acknowledges that the 'single-subject Honours degree is still regarded as the paradigm outside Scotland'.

take: 'the location of leisure centres on the Costa Brava'? If education is about 'intellectual connections', then the student who studies *nothing but* law or physics or electrical engineering or French — the student who avoids the necessity of making connections among disparate experiences — is more likely to have fulfilled the synthesizing function of education than his generalist peer.

It is understandable, therefore, that attempts to move English post-compulsory education towards the general end of the spectrum are so often half-hearted and so frequently meet with even less enthusiasm among clients. The DipHE is a case in point. Lord Robbins may have re-emerged in 1980 to set the record straight, to argue that his Committee never intended the expansion of specialised degree courses in the 1960s and 1970s, to refer to the 'iniquitous habit of ultra specialisation at tender ages' and to remind us that,

As regards specialisation at the later stages of schooling, we are completely out of step with the rest of free societies . . . and run the acute danger of turning out a race of citizens virtually uncomprehending each other as regards the broader topics of civilised talk . . . Extreme specialisation suitable for research scholarship or professional training should be reserved for the graduate schools.

We have heard these arguments time and again, and with precious little effect. Specialisation is too deeply embedded in our educational culture. The system is itself structured in a hierarchical ascent towards greater and greater specialisation, and this in turn is reflected in the organisation of awards and enshrined in our professional reward structure. Thus, the Leverhulme Report (1983) may urge the abandonment of 'sharp administrative and academic distinction between "advanced" and "non-advanced" courses', may call for universities and the CNAA to 'devise certificates of partial completion of degree courses' and ask both groups to consider 'the establishment of two-year ordinary degree' courses, all of which might be seen as a diminution of specialisation, but it does so in the context of quoting Carter's (1979) oft-repeated observation that,

A degree is an ancient and prestigious qualification, and the various diplomas and certificates below degree level carry no equivalent prestige: some are indeed liable to be interpreted as evidence of failure in a degree.

Having so often remained unpersuasive in their advocacy of general education from the upper end of the hierarchical structure, we should not be too surprised to find generalists coming at it from the lower end, i.e. vocational education/training. The FEU's **A basis for choice** (1979a) advocates a curriculum structure comprising

... a well-defined common core and deliberately less well defined areas calling for general and specific vocational studies.

with the core representing something like 60 per cent of what is on offer. A later publication, **Common core-teaching and learning** (FEU 1984a),

addresses itself to the difficulties of teachers adapting themselves to the needs of the broad curriculum:

For teachers and managers it is the translation of single subject syllabuses into **integrated** courses — via cross-disciplinary learning, counselling, continuous assessment and an occupationally relevant approach, which is probably the most demanding task . . . It is here, as much as in the provision of physical resources, that support is required.

The proposed Certificate of Pre-Vocational Education (BTEC, 1984c) certainly contains a core, together with vocational and additional studies, pointing out, as noted before, that

Ways in which the core and vocational elements are organised will vary from a totally integrated programme by which the core is achieved entirely through the vocational studies to a modular structure by which only partial integration of core and vocational elements is achieved. Courses in which core and vocational studies are organised as independent elements will not meet the criteria for the scheme.

An appendix in the BTEC document spells out clearly what is meant by integration. Whether such coherence and integration can be achieved by exhortation and diktat remains to be seen. There is more than a little irony in a system structured upwards towards increasing specialisation in a flight from lack of coherence at precisely that level at which it is commonly believed not to exist.

However, if disparate experience cannot easily be yoked together in the manner of T S Eliot's exemplary poet, it may be possible to discover coherence and generality in the nature of human experience. Johnson (1984) sets out to establish an approach to identifying Occupational Training Families, 'lists of jobs which are regarded as having a common key purpose', with the aim of providing

. . . training and experience in skills which can be used in a range of jobs, and to help young people to recognise and capitalise on this versatility.

Core skills in YTS (MSC, 1984) takes an even broader view:

Core skills are required in all jobs; differences between the jobs can prevent us from seeing the skills which they have in common . . . The Core provides a framework around which job-specific skills can be altered and adapted to all circumstances; the Core is a common language which explains a trainee's experiences in terms that are not job — or occupation-specific.

There is still much uncertainty about the validity of such approaches: whether they can work and whether they will work. The worlds of industry and commerce are no less stratified than the educational world, and in all, specialisation is an organising principle. Also, as in education, *common* and *general* are concomitant with low status.

MSC AND THE OPENING UP OF NEW MARKETS

In the 1960s and 1970s the notion of extended educational opportunities derived from Trow's conceptualisation of industrialised society moving from elite to mass to universal higher education: the focus was on opening the gateways from secondary to higher education so as to allow greater participation. In the 1980s the emphasis is on extending educational opportunity at the opposite end of the continuum, of reaching out to the majority of school leavers who, in the past, might have been expected to proceed to neither further nor higher education, but into employment. There have even been moves, via UGC and NAB, to limit higher education opportunities and to restrict participation. At the same time, additional funds have been made available through MSC to stimulate new markets. There has been a corresponding shift in emphasis and action.

By way of proof, one need turn only to the range of FEU publications, many of them noted above. The FEU was established in 1977 by the Secretary of State for Education and Science 'to make possible a more co-ordinated and cohesive approach to curriculum development in FE', with a remit requiring the necessity of reviewing the range of 'existing curricula' and for 'determining priorities for action' to improve the total provision. In practice, most FEU efforts have been directed toward non-traditional markets, their needs, and approaches towards fulfilling those needs. The emphasis is on those school leavers for whom the educational system has traditionally had little time and less interest: the raising of the school-leaving age in the early seventies was unaccompanied by widespread teacher rejoicing.

Spearheading the interest in the new market has been the MSC, established by the last Labour government but increasingly taken up by the present Conservative government as an effective means of achieving altered practices in the world of education and training. The NEDC/MSCs **Competence and competition** is very much committed to transforming 'the UK's education and training arrangement' so as to 'enable us to compete effectively with Germany, the US and Japan'. It envisages 'withdrawing 16-and-17-year olds from the labour market, as is done in the other three countries', establishing a Youth Training Scheme 'oriented towards occupation competence rather than non-directional foundation experience', increased 'rates of adult participation in work-related education and training', and colleges which are concerned with marketing rather than selling. The MSC attitude derives from a profound and deep-seated distrust of the education system. That such a distrust should be prevalent in British society is hardly unexpected if one recalls that the system has traditionally shed vast numbers of its primary clients as unsuited to the next developmental stage. In Britain more education leavers have experienced failure than success.

The underlying analysis of the education/training system to which the

MSC has drawn our attention over and over centres on a number of assertions about how that system operates.

- 1 The system is cumbersome and inflexible. Changes enter slowly and against a barrage of opposition.
- 2 Educational establishments expect their clients to adapt themselves and their needs to the constraints of the curriculum, the timetable and entry/examination requirements.
- 3 The educational world has scant regard for vocational training. In the professional hierarchy, vocational work is regarded as most appropriate for those who are unable to undertake academic work successfully.
- 4 Education and training in the public sector are unduly expensive. There are restrictive practices and much inefficiency.
- 5 Demands for change invariably result in the production of verbiage. Teachers are notorious for wanting to argue about everything: committees and papers ensure that very little action occurs.

Of course the MSC is simplistic. Its own literature eschews documentation and data. It tends to argue on the level of assertion. Its vision is capable of continual modification. If it operates within conceptual frameworks they are implied rather than stated. It uses language without precision. In the minds of many educationists, the MSC appears to devise its conclusions/recommendations before it seeks substantiating evidence. **Competence and competition** would hardly be acceptable as a piece of work in a degree course: there is no bibliography; like is compared with unlike; vast generalisations are drawn from inadequate material; there is no discernible methodology and no discussion of the limitations of the evidence. In short, **Competence and competition** does not play the academic game by the academic rules.

There is an understandable explanation. Much academic endeavour, and much academic purpose, is concerned with the celebration of life's complexities, with analysis that unfolds layers of nuances, uncertainties, ambiguities, inconsistencies. In the academic world there is a commitment to knowledge for its own sake, to effort without apparent utility, to pure X or Y. The MSC, on the other hand, is about action, and action necessitates not complexity, but reduction, abstraction and simplification.

The means by which the MSC has acted are strikingly direct. Instead of making demands on the education system as a secondary client, it has taken to:

- 1 **Buying what it wants** by the simple expedient of taking over financial control of an increasing proportion of NAFE provision: the traditional practice of shifting central government money to local

government (for augmentation from local funds) to colleges to departments to classrooms has been reduced to *direct purchasing*. There is control over the product, the provision and the process. One suspects that the 25 per cent takeover in **Training for jobs** is a prelude to further involvement.

- 2 **Promoting competition** through the use of private-sector trainers and between schools/colleges which share a common interest in the 16-18 market. The potential influence of this strategy has by no means been exhausted, and as the bulge moves out of the FE system we may anticipate that the effects of competition will grow apace.

One result of the above practices has been to limit the usual arguments among secondary clients which frequently accompany any advocated change. In essence it is a move towards centralisation and marks a dramatic shift in power, another illustration of the piper/tune adage. Thus far resistance has resulted in limited success.

Furthermore, the MSC has acted not only as a secondary client performing an agent role for primary clients: it has also, in effect, taken on a primary client role by buying the services/cooperation of trainees on its schemes, funding, as it were, both the client and the provider, or buyer and seller, paying people to purchase its products. Despite its exhortations to colleges, the MSC has moved some distance away from a marketing philosophy, and light years away from the consumerism marketing philosophy practised in the US. The latter outlook would be more directly served by the 'school voucher' system intermittently advocated in Britain, or by its post-compulsory equivalent urged by the Leverhulme Report (1983):

The present grant system should be replaced with a system of 'educational entitlement', whereby every citizen is entitled to support for his or her education or training, regardless of its level. Such support would comprise an age-related maintenance grant and remission or reimbursement of fees, for a maximum of **four** years full-time or its **part-time equivalent** after the school-leaving age of sixteen.

In reality, however, the MSC approach, outrageous as it may seem to some, is perfectly consistent within the British tradition of the paternalistic secondary client acting as agent for primary clients. Indeed the role model is to be found in the employer who purchases college courses and then pays his employees to attend such courses. The MSC's marketing commitment is not to student-centred education/training but to the establishment of an employer-centred service. The assumption is that what is good for the employer is undoubtedly good for the trainee/employee. If that seems unreasonable or unjust, one needs to recall that in British education/training secondary clients — local authorities, parents, employers, teachers, validating/examining boards/

agencies, professional bodies, industry training boards, HMI/local inspectors, etc. — have traditionally claimed to be acting in the interests of primary clients.

CUSTOMISATION AND THE EDUCATION SYSTEM

Like all social institutions, the education system is not consistent throughout its length and breadth. There are variations, differences, divergences. No education system can be totally client- or provider-centred. One needs to think rather in terms of tendencies, and in that sense the British system has remained located on that end of an ideal-state continuum in which control is vested in the authorities. In Trow's paradigm, the system is elitist: it offers a progressively refined sifting arrangement for excluding the majority and sending the minority towards ever-increasing specialisation; its reward is credentialism, certification based on the individual's submission to and survival of a received process.

In marketing terms, such a system preserves the value of its products by restricting availability. Driving tests may be criterion referenced, but there is little distinction in holding a driving licence. Educational awards tend to be norm referenced, and achievement is enhanced by reference to those who have failed. It is the relative rarity of certificates, diplomas and degrees which gives them value. There is therefore an inherent contradiction in seeking to use a device intended to exclude larger and larger proportions of individuals to include more and more potential clients. It is not accidental that in the international league tables provided by **Competence and competition** Britain should so consistently come bottom in terms of educational experience and achievement.

Over the past twenty years, the demand for increased throughput in the educational system has remained fairly persistent. The justifications have changed and the appearance of structural unemployment has provided increased urgency, but the difficulties remain: how can one modify the system to encourage larger and larger proportions of individuals to participate? The following have been suggested:

- 1 If the system is essentially a sifting device, one can raise the sifting mechanisms by delaying specialisation and promoting general education at increasingly higher levels. To some extent the US system does precisely this: real specialisms need not emerge until the third year of a degree course. In Britain, however, with its cultural commitment to high levels of government funding, such a possibility remains highly unlikely in the midst of an economic recession. University representatives need only mention the necessity for a four-year degree course to make any proposed modification at lower system levels unacceptable.

- 2 If the problem is limited numbers of individuals who are qualified for entry, one can seek to ease access. We have already noted examples of such attempts. The problem is again the resourcing issue. Attempts of the present Government to shift the burden progressively from the state to the individual have not been especially successful. In the US there is considerably more individual investment in education, whereas in Britain such a move would be seen as particularly disadvantageous to already socially disadvantaged groups.
- 3 If one cannot easily effect increased participation at higher (degree) levels as in the US, one can attempt to promote greater involvement at sub-degree level. The MSC's efforts are clearly designed to make learning a more attractive proposition to traditionally uninterested groups. We may note a number of proposed shifts: from academic to practical; from non-vocational to vocational; from instructional to experiential learning; from closed to open learning; from public to private-sector provision. The difficulty here, of course, is to enhance the status of the new approaches, for they represent not fundamental modifications of the system, but the grafting on of traditionally lower status experiences. The strategy has the merits of being relatively inexpensive, of avoiding the internecine struggles of system modification, and, through the use of direct funding, of speed. Nevertheless, its long-term effects in terms of real change are problematical, for it leaves intact a social value system and the structure through which that system is expressed.

It will be seen that all of the above are essentially attempts to tamper with the existing educational system. It is still, as we have noted above, a system in which change is achieved through political compromise among secondary clients, in which every change is advocated paternalistically in terms of the social good of others, in which individual private needs are expressed in terms of public goals. One may recall here Trow's (1981) observation that

Other countries, on the whole, do not want to strengthen the power of students as consumers, for fear of the effect on the character, quality and standards of their institutions and national system . . . almost everywhere outside the United States, the combination of political, bureaucratic and professional structures operates to insulate higher education from competitive market forces, and controls and ultimately constrains access.

In such a context, the repeated urgings of educationists that we should promote individualised, customised education, seem particularly inappropriate, since the entire system may be viewed as an elaborate set of barriers designed to preclude the possibility of customisation on an

individual level. If modularisation with its possibilities for partial customisation has proved unacceptable to the majority of British educationists, it is hardly likely that total customisation will prove more attractive.

MODULARISATION IN THE BRITISH MARKET-PLACE

Despite a professional mythology which espouses educational institutions as an agency for social engineering, educational systems are remarkably conservative establishments. They tend to reflect the prevailing social, political and economic context. It is therefore extremely difficult to isolate some attractive feature of an overseas system and to attempt to transplant it in an alien environment. Internationalists sometimes appear to think otherwise, and so, frequently, do ministers. Hence **Competence and competition**. Despite the caveat that 'wholesale adoption of the practices of another country is not the way forward', the British educational scene over the past two decades has seen repeated waves of just such advocacy, among which modularisation (with the concomitant device of credit transfer) provides an instructive example.

The credit system, as we have seen, emerged as a device for promoting student learning customisation in nineteenth-century America in response to declining rolls and as a reaction against an increasingly outdated curriculum, and at a time when educational establishments (and competition) were mushrooming across the country. It survived for nearly a half century, in the process fostering almost total client control, until, around 1910, the educational profession began to reassert its own authority, using the credit system itself to reduce client autonomy. Nevertheless, the underlying market philosophy, the belief in consumerism, in the buyer's inherent rights, which promoted the credit system in the first instance, has remained a distinguishing feature of the US educational scene.

In Britain the credit system first surfaced in England as a discernible device in the early 1960s, the Robbins era which saw expansion of universities and the development of the binary system. To some extent the system was anglicised, acquiring a number of varied titles and generally offered in somewhat larger components. The purposes to which modularisation, as it came to be known, was put were varied, although initial advocates often tended to stress the potentialities for student-centredness. In the early 1970s, when it appeared that higher education provision needed to be extended, both the OECD and central government urged modular courses on the profession: extended HE take-up without some degree of enhanced student autonomy would be difficult to achieve. In Britain, however, because of its US associations, modularisation was increasingly identified with wide student choice, with broad general

education, delayed specialisation and a lack of intellectual rigour as revealed through the concepts of coherence and integration, with all of those attributes which were seen as totally at variance with traditional British educational values.

Frequently inherent in the attitudes of many modular advocates has been a belief in what one might call *structuralism*, the idea that structures influence human behaviour significantly. It is a notion embedded deeply within the education profession. One may see it as an underlying prop for the sixties comprehensivisation movement with its goal of opening educational opportunities to hitherto excluded social groups, and in the similar commitment to mixed-ability grouping. One may see it also in the conviction that putting women, blacks and members of ethnic minorities into senior posts in educational establishments will provide role models which in turn will alter social attitudes to representatives of the aforesaid groups. Therefore, reorganisation must be the pathway to revolution without tears.

The difficulty is that structures are essentially barriers designed to keep in and keep out, rather like the walls and roofs of buildings; but however one constructs a house, whatever the assumptions one makes about the lifestyle it is meant to accommodate, people generally find ways of getting around the barriers, of moving them, knocking them down. If it were not so, twentieth century families would find it impossible to live in nineteenth century houses. Barriers may be obstacles, but human ingenuity for circumventing obstacles is almost limitless.

We can see something of that ingenuity in the institutional case studies we followed through previously. The repeated story is of structures intended to alter attitudes and enlarge opportunities resulting in partial modification instead of replacement, in unanticipated restrictions instead of transformation. The educational system has not adapted itself to modularisation. Quite the reverse: the system has either used modularisation to enhance provider power (as at London), or (as in the polytechnics) it has relegated modularisation to the level of lower status products and resisted attempts to enhance their status. Modularisation may have arrived as the bearer of choice, but the price exacted for enhanced status (as at City and Oxford) has been the limitation of choice. Modularisation has not transformed the educational market-place in Britain; the market-place has accommodated modularisation on terms agreeable to the majority of traders. Markets frequently exhibit strong pressures towards the taxing of imports in order to preserve the dominance of home producers.

On at least the surface level, the Scottish Action Plan might appear to contradict much of what has been argued above. It is certainly true, as we have noted before, that modularisation on the American model starts with a number of advantages in Scotland: a traditional commitment to breadth education; an inherited system which many have seen as intrinsically

modular; a centralised provision; a limited population. However, it would be something of a mistake to imagine that the Action Plan represents a dramatic reversal of English practice, a commitment to a student/primary client-centred marketing approach. It is very instructive to compare two separate leaflets prepared for the Action Plan's users, **Guide to employers** (SED, 1984e) and **Guide for parents and students** (SED, 1984f) intended to present the scheme to potential users (my italics below). The employers' manual lists as the advantages:

To you, the employer, the new framework will offer the opportunity to negotiate training programmes *to match your needs more precisely*. The single certificate will supply a clear statement of what each student has achieved, and thus make possible *the better selection of recruits* . . . For the young people concerned, the system will enable them *to identify the skills they require for their chosen occupational area*.

In the parent/student manual, the main advantages to students of the new system are described thus:

Students will have *some* choice about which modules to take and be able to relate their choice *to the kind of job they are hoping to find in the future*, and to what they are good at or specially interested in. Students will be more aware of *what they are expected to master* and they will see very quickly if they are getting on well or if they need help . . . The certificate awarded will show clearly to *employers* what students have achieved.

The Action Plan is very much employer/secondary client-centred. If it were not, it is unlikely that it would have been so fully endorsed by the MSC and that Scotland would have escaped MSC intervention. **Training for jobs** (1984) sets out the means by which education can respond more fully to employer needs. In the assertion that

the decisions as to who is trained, when and in what skills are best taken by the employers (and indeed the individuals concerned) who have to satisfy the needs of the market . . .

the parenthetical addition establishes the hierarchy of needs. This commitment is more clearly spelt out a little later in the White Paper:

For employers, the modular programme will offer nationally validated standards of attainment, a single record of what has been achieved by each student and, at the same time, the opportunity to negotiate suitable programmes to meet their local needs and changing requirements.

When it is recalled that the Action Plan will enable employers to provide additional modules and/or to offer relevant modules in their workplaces, the Action Plan's focus becomes perfectly clear.

The Scottish educational market-place will be one in which employers as

secondary clients will be expected to play the dominant role. Inevitably, however, other secondary clients are unlikely to remain totally acquiescent. Whether the Action Plan can be presented in such a way as to win the support of potential antagonists and to integrate 16 to 18 (and later 14 to 16) provision across the board, and thus avoid the tendency to label modular provision as low-level general training remains to be seen. Equally uncertain is whether modularisation can be used in one cultural context to foster a marketing perspective considerably different from the one which created the American credit system. The answers are unlikely to emerge with any real certitude in the near future. The persistence of traditional British education and the perseverance of its value system cannot be overlooked. In education, change agents may propose, but frequently the established order disposes. *Plus ça change . . .*

APPENDIX A

CASE STUDY RESEARCH METHODOLOGY

In studying the cases delineated here, I employed two sources of data:

- 1 **Official institutional documentation.** I have regarded this as a major source of information, and, in relative terms, a provider of 'hard' data, particularly where quantifiable material was involved. Moreover, documentation is the means by which innovation systems are both legitimised and made available to users. It is also a record of what change agents have proposed and achieved. It charts the changes, adaptations and modifications which user systems have made to the innovation systems.

In general, individuals in all the organisations were agreeable to making available to me virtually all documentation which I might require, and where one individual might prove reticent, another was often forthcoming. Nevertheless, in some instances documentation was unavailable, but such occasions were relatively rare.¹ Over all, the material collected included: institutional statistics; committee minutes and appendices; working papers; internal discussion documents; correspondence; pamphlets, prospectuses and departmental handouts; CNAA submissions; personal lecture material, unpublished articles; reports; course development planning documents; administrative forms; DES statistical returns; and private papers.

- 2 **Interviewing.** I employed semi-structured interviews, most lasting between one-and-a-half and two hours, the shortest a half hour and the longest four-and-a-half hours. In total, 90 interviews were held, in two phases. In 1978 and 1979, I conducted 61 interviews with 52 respondents. Later I updated the material (in some instances revisiting a number of respondents) and added the fifth case, carrying out work in two stages: 19 interviews with 12 people in 1981 and 1982, and a further 10 interviews in 1984.

Inevitably, one suspects the presence of errors, particularly in the institutional cases. The material is complex and covers events spread over nearly a quarter century. From 1978 to 1984, many of the central actors

- 1 Although fascinating: one institutional representative quoted the 'thirty-year' rule at me and required nearly three months to relent and allow me to see 'relevant portions' of committee minutes; another was adamant in withholding SSR statistics for the college, eventually revealing that there were two methods of calculation, one for the DES, and a second, more cheerful approach, for internal consumption.

(including some whom I had interviewed earlier) moved on, retired or died. Even in 1978/9, I found major protagonists had seemingly vanished, so that there were enormous difficulties in identifying the initial change agents and the origins of their advocated changes. In one instance, the detective work occupied me over a period of more than six months. Given the complexity of the events described and the number of individuals involved in their unfolding, one would be naive to claim strict accuracy, particularly when the same 'fact' may be explained and perceived differently by different individuals. With the polytechnic cases, I sent the completed material to institutional representatives and emended my analyses in the light of their comments and observations. However, even here the recipients of my material were not necessarily themselves present at all the events described, so that with the best will in the world among all of the parties involved, inaccuracies may have crept in or gone unnoticed, for which I apologise.

With the Scottish Action Plan, I have relied more heavily on published material than on interviews. In any event, the focus is on a national system rather than an organisational manifestation. However, the rate at which the SED has manufactured materials has sometimes proved breathtaking, and the general situation is still in a dynamic developmental stage. Where possible I have attempted to update the material in footnotes.

APPENDIX B

ACRONYMS AND INITIALISMS

Acronyms and initialisms represent part of the professional code through which educationists/trainers communicate. For the uninitiated, or the forgetful, we offer the following, with apologies for what is (to some) obvious.

A LEVEL	Advanced Level Examination in the General Certificate of Education
ACSET	Advisory Committee on the Supply and Education of Teachers
AE	Adult Education
AEO	Assistant Education Officer
ALBSU	Adult Literacy and Basic Skills Unit
APC	Association of Principals of Colleges
BA	Bachelor of Arts Degree
BEC	Business Education Council
BEd	Bachelor of Education Degree
BH	Bachelor of Humanities Degree
BSc	Bachelor of Science Degree
BTEC	Business and Technician Education Council
CATS	Credit Accumulation and Transfer Scheme
CBI	Confederation of British Industry
CCC	Consultative Committee on the Curriculum
CELP	College Employer Links Project
CERI	Centre for Educational Research and Innovation
CFE	College of Further Education
CGLI	City and Guilds of London Institute
CHE	Committee on Higher Education
CNAA	Council for National Academic Awards
CSE	Certificate of Secondary Education

cu	course unit
DE	Department of the Environment
DES	Department of Education and Science
DHSS	Department of Health and Social Security
DipHE	Diploma of Higher Education
ECCTIS	Educational Counselling and Credit Transfer Information Service
ECSC	European Coal and Steel Community
EEC	European Economic Community
EIS	Educational Institute of Scotland
EOC	Equal Opportunities Commission
ERDF	European Regional Development Fund
ESF	European Social Fund
ESG	Education Support Grant
FE	Further Education
FESC	Further Education Staff College
FEU	Further Education Unit
FHE	Further and Higher Education
FTE	Full Time Equivalent
GRIHE	Group for Research and Innovation in Higher Education
HE	Higher Education
HMI	Her Majesty's Inspectorate
HNC	Higher National Certificate
HND	Higher National Diploma
IRT	Institution with Recognised Teachers
ITB	Industry Training Board
JFHES	Journal for Further & Higher Education in Scotland
LA	Local Authority
LAA	Local Authority Associations
LCP	Local Collaborative Project

LEA	Local Education Authority
MA	Master of Arts Degree
MEP	Microelectronics Education Programme
MP	Member of Parliament
MSC	Manpower Services Commission
NAB	National Advisory Body
NAFE	Non-Advanced Further Education
NATFHE	National Association of Teachers in Further and Higher Education
NEDC	National Economic Development Council
NFER	National Foundation for Educational Research
NS	Non-Standard
O	Ordinary Level Examination in the General Certificate of Education
OECD	Organisation for Economic Co-operation and Development
OED	Oxford English Dictionary
ONC	Higher National Certificate
OU	Open University
PICKUP	Professional, Industrial and Commercial Updating
RAC	Regional Advisory Council
REPLAN	A scheme of the DES
RSA	Royal Society of Arts
RSG	Rate Support Grant
SEB	Scottish Examination Board
SED	Scottish Education Department
SCOBEC	Scottish Business Education Council
SCOTEC	Scottish Technician Education Council
SCOTVEC	Scottish Vocational Education Council
SSR	Student-Staff Ratio
TEC	Technician Education Council

TES	Times Educational Supplement
TESS	Times Educational Supplement of Scotland
THES	Times Higher Education Supplement
TVEI	Technical and Vocational Education Initiative
TUC	Trades Union Congress
UGC	University Grants Committee
UK	United Kingdom
US	United States
VET	Vocational Education and Training
YOPS	Youth Opportunities Scheme
YTS	Youth Training Scheme

REFERENCES

- Allen D W & P R Christensen (1974) 'Using time, space and people effectively', Allen D W & J C Hecht *eds*. **Controversies in education**. W B Saunders.
- Ashby E (1971) **Any person, any study**. McGraw-Hill.
- Ashby E (1973) **The structure of higher education**. International Council for Educational Development, Occasional Paper No. 6.
- Axelrod J (1965) New patterns of internal organisation. L Wilson *ed*. **Emerging patterns in American higher education**. Washington, DC. American Council on Education.
- Bagley Bill & Bob Challis (1985) **Inside open learning**. Studies in Further Education. Blagdon, Further Education Staff College.
- Ball C E J (1984) **Strategies for higher education: the next ten years**. Association of Colleges for Further & Higher Education.
- Ben-David J (1972) **American higher education, directions old and new**. McGraw-Hill.
- Birch Derek W & Jack Latcham (1984) **Flexible learning in action**. FEU.
- Boyson Rhodes (1981) 'Short cycle higher education'. **ACID Journal**, 4(2), 5-10.
- Brace Diane (1984) **Negotiating the curriculum – tutors and students**. (Information bank paper; 1968) Blagdon, Further Education Staff College.
- Briggs A & G Michaud (1972) 'Problems and solutions'. **Inter-disciplinarity, problems of teaching and research in universities**. Paris. Centre for Educational Research and Innovation.
- Brubacher J S & W Rudy (1976) **Higher education in transition** 3rd edition. New York. Harper and Row.
- Burge E J (1976) 'Modular courses and degree structures'. **Physics Education**, 11(3), 137-41.
- Burgess T (1977) **Education after school**. Harmondsworth. Penguin.
- Burgess T (1984), 'Free transfer blockage'. **Times Higher Education Supplement**. 20 January.
- Burn B (1975) 'The American academic credit system'. **Structure of studies and place of research in mass higher education**. Paris. Organisation for Economic Co-operation and Development.

- Business Education Council (1976) **First policy statement**. BEC.
- Business and Technician Education Council (1984a) **Policies and priorities into the 1990s**. BTEC.
- Business and Technician Education Council (1984b) **A report on the responses to the 'Discussion document on educational policy'**. BTEC.
- Business and Technician Education Council (1984c) **The certificate of pre-vocational education, consultative document**. BTEC.
- Byrne E (1974) 'The diploma in higher education — where now?' **Education and Training** 17(5), 110-5.
- Cane A (1973) 'We had to dig tunnels between the schools'. **Times Higher Education Supplement**. 2 February.
- Carter C F (1979) **Higher education for the future**. Oxford. Blackwell.
- Chambers P (1975) 'Courses validation and curriculum innovation: a critique of the influence of the Council for National Academic Awards on the colleges of education'. **Education for Teaching** 75 (Summer), 2-11.
- Chin R & K D Benne (1970) 'General strategies for effecting changes in human systems'. W G Bennis *et al. eds.* **The planning of change**. New York. Holt, Rinehart & Winston.
- Church C (1975) 'Modular courses in British higher education: a critical assessment'. **Higher Education Bulletin** 3(3), 165-84.
- College and University** (1979) 'Granting credit for study abroad: US graduate and undergraduate students', 54 (Summer) 335.
- College and University** (1981) Overseas US Secondary Schools: Needs and Expectations of School Guidance Personnel and American Admissions Officers', 56 (Summer) 367-8.
- Commission of the European Communities (1983) **Proposal for a council decision on the comparability of vocational training qualifications between member states of the European Community**. COM(83) 482 final: Brussels.
- Committee on Higher Education (1963) **Higher education**. (Chairman Lord Robbins) (Cmd 2154). HMSO.
- Cooper & Lybrand Associates (1985) **A challenge to complacency: changing attitudes to training**. Manpower Services Commission/National Economic Development Council. OEDC.
- Cope R & W Hannah (1975) **Revolving college doors**. Wiley and Sons.

Council for National Academic Awards (1974) **Reflections on the design of modular courses**. CNAA.

Council for National Academic Awards (1984a) **Access to higher education: non-standard entry to CNAA first degree and DipHE courses**. CNAA.

Council for National Academic Awards (1984b) **Admission of students with advanced standing**. CNAA.

Council for National Academic Awards (1984c) **Outline proposals for a pilot inter-institutional credit accumulation scheme in the London area**. CNAA.

Cunningham I (1975) 'The NELP experiment with DipHE'. **Education and Training** 17(5), 114-7.

Curtis J H R (1984) **Marketing further education: beginning with a definition of the nature of the product**. (Information bank paper; 1939) Blagdon, Further Education Staff College.

Dainty R L (1978) 'Modular timetable at Kettering Technical College'. **Coombe Lodge Report** 11(3), 85-6.

Davidson John (1980) 'The aspirations of DipHE students: the Middlesex survey extended'. **ACID Journal** 3(1), 66-9.

Dean Alan (1985) **Moving up: an overview of transition between vocational further and higher education**. FEU.

Dee Lesley (1984) **Routes to coping**. FEU.

Department of Education & Science (1972a) **Teacher education and training**. Report of a committee under the chairmanship of Lord James of Rusholme. HMSO.

Department of Education & Science (1972b) **Education: a framework for expansion**. HMSO.

Department of Education & Science (1973) **Adult Education: a plan for development**. Report of a committee of inquiry appointed by the Secretary of State for Education and Science under the chairmanship of Sir Lionel Russell CBE. HMSO.

Department of Education & Science (1980) **Education for 16-19 year olds**. DES.

Department of Education & Science (1983) **Degree courses in the public sector of higher education: an HMI commentary**. DES.

Department of Education & Science (1984) **International statistical comparisons in higher education**. Statistical Bulletin 9/84. ISSN: 0142-5013. DES.

Development of higher education into the 1990s, The (1985) (Cmnd 9524) HMSO.

Dougall Don & John Halliday (1985) 'FE lecturers and the action plan'. **Times Educational Supplement of Scotland**, 11 January.

Eckert W H (1972) 'The modular calendar of Mount Vernon College'. **Liberal Education** 58(4), 492-500.

Educational Counselling & Credit Transfer Information Service (1984), **Information Bulletin No. 2**. September. ECCTIS.

Educational Counselling & Credit Transfer Information Service (1986) **Facts 1**. March. ECCTIS.

Eliot T S (1952) **Selected essays**. Faber and Faber.

Evans Norman (1983) **Curriculum Opportunity**. FEU.

Ferguson J (1975) **The Open University from within**. University of London Press.

Flexner A (1930) **Universities, American, English, German**, 2nd edition 1968. Oxford University Press.

Fulton Oliver *ed.* (1981) **Access to higher education**. Society for Research into Higher Education.

Further Education Unit (1981) **Curriculum change: an evaluation of TEC programme development in colleges**. FEU.

Further Education Unit (1979a). **A basis for choice**. FEU.

Further Education Unit (1979b) **Active learning — a guide**. FEU.

Further Education Unit (1982a) **Basic skills**. FEU.

Further Education Unit (1982b) **Profiles**. FEU.

Further Education Unit (1982c) **Progressing from vocational preparation towards a solution**. FEU

Further Education Unit (1983) **Flexible learning opportunities**. FEU.

Further Education Unit (1984a) **Common core — teaching and learning**. FEU.

Further Education Unit (1984b) **Planned experience**. FEU.

Further Education Unit (1984c) **Profiles in action**. FEU.

Gass J R (1971) 'An overview of past trends and future issues'. **Educational policies for the 1970s**. Paris. Organisation for Economic Co-operation and Development.

Gerhard D (1955) 'The emergence of the credit system in American education considered as a problem of social and intellectual history'. **American Association of University Professors Bulletin** 41 (Winter).

Group for Research and Innovation in Higher Education (1975) **The drift of change**. Nuffield Foundation.

Group for Research and Innovation in Higher Education (1976) **The container revolution: a study of unit and modular schemes**. Nuffield Foundation.

Gutteridge W (1975) 'Too many modules can spoil the mixture'. **Times Higher Education Supplement**, 23 May.

Haas G James (1982) 'Undergraduate transfer credits from abroad'. **College and University** 57 (Winter) 218-225.

Hajnal J (1972) **The student trap**. Harmondsworth. Penguin.

Hawkins C A (1973) **The educational implications of modularisation MS4**. Hatfield Polytechnic.

Heathcote Gay *et al.* (1982) **Curriculum styles and strategies**. FEU.

Hefferlin J B L (1969) **Dynamics of academic reform**. San Francisco. Jossey-Bass.

Heffernan J M (1973) 'The credibility of the credit hour: the history, use and shortcomings of the credit system'. **Journal of Higher Education** 44(1), 61-72.

Hill F (1975) 'Life credits attracting more mature students'. **Times Higher Education Supplement**. 21 March.

Hills G *et al.* (1973) 'Southampton launches unit courses'. **Chemistry in Britain** 9(4), 147-60.

Hofstadter R & W Smith *eds.* (1968) **American higher education, a documentary history**, Volume II. University of Chicago Press.

Holland H (1974) 'Mrs Warnock criticizes modular degrees'. **Times Higher Education Supplement**. 26 April.

Holly M (1975) 'The student-centred DipHE'. **General Education** 24 (Spring), 5-15.

Irwin M *ed.* (1956) **Higher education in the United States**. Washington D.C. American Council on Education.

Johnson Ron (1984) **Occupational training families**. FEU.

Jones G O (1969) 'Physics in the new London BSc degree'. **Physics Education** 4(3), 143-50.

Journal for Further & Higher Education in Scotland (1984) 'Modular fever — or is it education?' 8 May.

Journal of Higher Education (1979) 50,2.

Kelly A V (1975) 'The diploma in higher education and the new BE degrees'. **Ideas** 30, 186-191.

Kogan Maurice (1979) **Education policies in perspective: an appraisal of OECD country educational policy reviews**. Paris. OECD.

Kuhns E (1974) 'The modular calendar: catalyst for change'. **Educational Record** (Winter) 57-62.

Ladd D R (1970) **Change in educational policy**. New York. McGraw-Hill.

Lane M R (1974) 'Validating the DipHE'. **Coombe Lodge Report** 7(11), 727-32.

Lane M R (1975) **Design for degrees**. Macmillan.

Leech Michael (1982) 'Students'. David Parkes *ed.* **The changing face of FE**. FEU.

Leverhulme Report (1983) **Excellence in diversity: towards a new strategy for higher education**. Guildford. Society for Research into Higher Education.

Lindquist J (1975) 'Strategies for contract learning'. D W Vermilye *ed.* **Learner-centred reform**. 75-89. San Francisco. Jossey-Bass.

Lorimer M R (1962) 'How much is a credit hour?'. **Journal of Higher Education** 33(6), 302-6.

Lukes J R (1975) 'Power and policy at the DES: a case study'. **University Quarterly** (Spring) 133-65.

Mack D W (1984) 'An Action Plan for Scottish Education'. **Journal for Further and Higher Education in Scotland**. 9 November.

Manpower Services Commission (1984) **Core skills in YTS: Part 1**. MSC.

Martorana S V (1973) 'Community-junior colleges in the United States'. **Short-cycle higher education: a search for identity**. Paris. Organisation for Economic Co-operation and Development.

Meadows N G (1973) 'Easing transfer from diploma to degree'. **Times Higher Education Supplement**. 14 June.

Michaels Ruth (1979) 'Access to higher education'. **Continuing Education** November, 3-6.

Miller G (1973) 'Lernfreiheit in Europe'. **Times Higher Education Supplement**. 15 June.

Miller John C (1982) **Tutoring**. FEU.

Miller John *et al.* (1983) **Towards a personal guidance base**. FEU.

Morison S E (1946) **Three centuries of Harvard 1636-1936**. 2nd edition. Harvard University Press.

Munro Neil (1984a) 'Join S6 and see Renfrew'. **Times Educational Supplement of Scotland**. 16 November.

Munro Neil (1984b) 'Lecturers fight EIS 'sell-out''. **Times Educational Supplement of Scotland**. 28 September.

Munro Neil (1986) 'Scotvec heads for collision with unions'. **Times Educational Supplement of Scotland**. 28 February.

Murray R G (1977) 'Planning for diversification'. **Report of conference on 'Planning for academic diversification in higher education'**. Council for National Academic Awards.

National Advisory Body (1984) **A strategy for higher education in the late 1980s and beyond**. NAB.

National Economic Development Council/Manpower Services Commission (1984) **Competence and competition: training and education in the Federal Republic of Germany, the United States and Japan**. NEDC.

Organisation for Economic Co-operation and Development (1971a) **Towards new structures of post-secondary education: a preliminary statement of issues**. Paris. OECD.

Organisation for Economic Co-operation and Development (1971b) **Educational policies for the 1970s**. Paris. OECD.

Organisation for Economic Co-operation and Development (1973a) **Short-cycle higher education: a search for identity**. Paris. OECD.

Organisation for Economic Co-operation and Development (1973b) **Long-range policy planning in education**. Paris. OECD.

Organisation for Economic Co-operation and Development (1974a) **The educational situation in OECD countries**. Paris. OECD.

Organisation for Economic Co-operation and Development (1974b) **Policies for higher education**. Paris. OECD.

Organisation for Economic Co-operation and Development (1974c) **Structure of studies and place of research in mass higher education**. Paris. OECD.

Organisation for Economic Co-operation and Development (1975a) **Educational development strategy in England and Wales**. Paris. OECD.

Organisation for Economic Co-operation and Development (1975b) **Education and working life in modern society**. Paris. OECD.

Organisation for Economic Co-operation and Development (1976) **Beyond compulsory schooling**. Paris. OECD.

Organisation for Economic Co-operation and Development (1983a) **The future of vocational education and training**. Paris. OECD.

Organisation for Economic Co-operation and Development (1983b) **Policies for higher education in the 1980s**. Paris. OECD.

Overend W G (1973) 'Course-units — seven years' experience'. **Chemistry in Britain** 9(4), 154-7.

Payne N (1974) Three perspectives on the DipHE: the colleges of education. **Coombe Lodge Report** 7(11) 707-714.

Perry W (1976) **Open University**. OU Press.

Phillips D E (1901) 'The elective system in American education'. **Pedagogical Seminary** VIII(2), 206-30.

Pickard Willis (1985) 'Scotec and Scotbec are split on exam merger'. **Times Educational Supplement of Scotland**. 4 January.

Plan for polytechnics and other colleges (1966) (Cmnd 3006). HMSO.

Porter J B (1978) Modular timetabling and student choice', **Coombe Lodge Report** 11(3), 90-3.

Rickett Dr Ray (1971) in 'Dingy buildings but academic excellence'. Peter Scott. **Times Higher Education Supplement** 15 October.

Ridler A M (1974) Course validation and approval — the CNA. **Coombe Lodge Report** 7(5), 276-83.

Ritchie W R (1984) **16-18s in Scotland: An Action Plan**. Association of Colleges for Further and Higher Education.

Robbins Derek (1980a), 'The opportunities of credit transfer'. **Higher Education Review** 12(3), 61-4.

Robbins Derek (1980b), 'Credit transfer in higher education within the United Kingdom and with the European Economic Communities'. **Journal of the National Association of Inspectors & Educational Advisers** 2 (Spring) 24-6.

Robbins Lord (1980) **Higher education revisited**. Macmillan.

Roberts J E *et al.* (1982) **Making progress**. FEU.

Schultz R E (1973) 'Outreach programmes in the United States Community Colleges'. **Short-cycle higher education, a search for identity**. Paris. Organisation for Economic Co-operation and Development.

Scotland J (1969) **The history of Scottish education 2**. University of London Press.

Scottish Education Department (1979) **16-18s in Scotland, the first two years of post-compulsory education**. SED.

Scottish Education Department (1983) **16-18s in Scotland: An Action Plan**. SED.

Scottish Education Department (1984a) **16-18 Action Plan: guidelines in business administration**. SED.

Scottish Education Department (1984b) **16-18s in Scotland: timetabling strategies, proceedings of conference for college co-ordinators**. SED.

Scottish Education Department (1984c) **16-18s in Scotland: guidelines on curriculum and assessment**. SED.

Scottish Education Department (1984d) **16-18s in Scotland: a single examining body?** SED.

Scottish Education Department (1984e) **Guide to employers**. SED.

Scottish Education Department (1984f) **Guide for parents and students**. SED.

Scottish Education Department (1984g) **16-18s in Scotland, in-service training**. March 1984 — June 1984. SED.

Scottish Education Department (1984h) **16-18s in Scotland, training of guidance staff**. SED.

Scottish Education Department (1984i) **16-18s in Scotland, guidelines in interdisciplinary studies**. SED.

Scottish Education Department (1984j) **16-18s in Scotland, guidelines in science**. SED.

Scottish Education Department (1984k) **16-18s in Scotland, guidelines and programmes of modules relating to existing provision, technology**. SED.

Scottish Education Department (1984l) **16-18s in Scotland, programmes of modules relating to existing provision, science guidance notes**. SED.

Scottish Education Department (1984m) **16-18s in Scotland, guidelines on assessment**. SED.

Simmons Helen (1975) **Negotiating the curriculum**. Nuffield Foundation Group for Research in Higher Education.

Spurr S H (1970) **Academic degree structures: innovative approaches**. New York. McGraw-Hill.

Stokes A R (1979) 'Integration and separation as a result of unit courses'. Derek McNally ed. **Learning strategies in university science**. University College Cardiff Press.

Stoney Sheila M and Margaret I Reid (1981) **Balancing the equation**. FEU.

Taylor W (1974) 'The future of higher education' and 'Coherence'. **Coombe Lodge Report** 7(11) 697-706 & 749-750.

Taylor W (1975) 'Approaches differ but standards are the same'. **Times Higher Education Supplement** 30 May, 9.

Theodossin Ernest (1980) **Modular-course structures in English higher education**. PhD Thesis. University of London Institute of Education.

Theodossin Ernest (1981) 'The modularisation of English higher education'. **Research in Education** 26, 89-103.

Theodossin Ernest (1984) **Vocational education and training in Denmark**. Comparative Papers in Further Education No.13. Blagdon, Further Education Staff College.

Theodossin Ernest (1986) **In search of the responsive college**. Studies in Further Education. Blagdon, Further Education Staff College.

Technician Education Council (1974) **Policy statement**. TEC.

Thomas D & E Willcocks (1977) **Building it up**. MA Thesis, University of Sussex.

Times Educational Supplement of Scotland (1984) 'Battle looms over CCC proposals'. 19 October. TESS.

Times Educational Supplement of Scotland (1985a) 'CBI joins call for single body'. 11 January. TESS.

Times Educational Supplement of Scotland (1985b) 'Strathclyde sticks by consortia'. 8 March. TESS.

Times Higher Education Supplement (1984) 'London plans new flavour of degree'. 2 November. THES.

- Toffler Alvin (1981) **The third wave**. Pan Books & Collins.
- Toyne Peter (1979) **Educational credit transfer: feasibility study**. Exeter. DES.
- Training for jobs** (Cmnd 9135) (1984). HMSO.
- Trow Martin (1981) 'Comparative perspectives on access'. Oliver Fulton ed. **Access to higher education**. Guildford. Research into Higher Education Monographs.
- Tuttle D R & H O'Leary (1965) **Curriculum patterns in English, undergraduate requirements for the English major**. Washington, D.C. US Government Printing Office.
- University Grants Committee (1984) **A strategy for higher education into the 1990s**. HMSO.
- Warren J & A C Weir (1973a) **Degree courses in the United States of America MS2**. Hatfield Polytechnic.
- Warren J & A C Weir (1973b) **Report of the modular course structure planning group MS3**. Hatfield Polytechnic.
- Warren J & A C Weir (1973c) **Survey of modular first degree schemes in the United Kingdom MS1**. Hatfield Polytechnic.
- Watson David (1985) The Oxford Polytechnic modular course 1973-83: a case study. **Journal of Further and Higher Education** 9(1), 9-20.
- Weitzel D C (1973) 'Modular Model' **Higher Education Review** 5(2), 63-5.
- Weston Penelope B (1980) **Negotiating the curriculum: study in secondary schools**. National Foundation for Educational Research.
- Williams Gareth & Tessa Blackstone (1983) **Response to adversity**. Society for Research into Higher Education.
- Wynne Rowland (1985) Credit transfer in Ireland and the Netherlands: a United Kingdom perspective. **Studies in Higher Education** 10(3),
- Ziegler W (1972) 'An approach to the futures - perspective in American education'. **Alternative educational futures in the United States and in Europe: methods, issues and policy relevance**. 57-136. Paris. Centre for Educational Research and Innovation.